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OF

The Deaf,

EDITED BY

EDWARD ALLEN FAY,

UNDER THE DIRECTION OF

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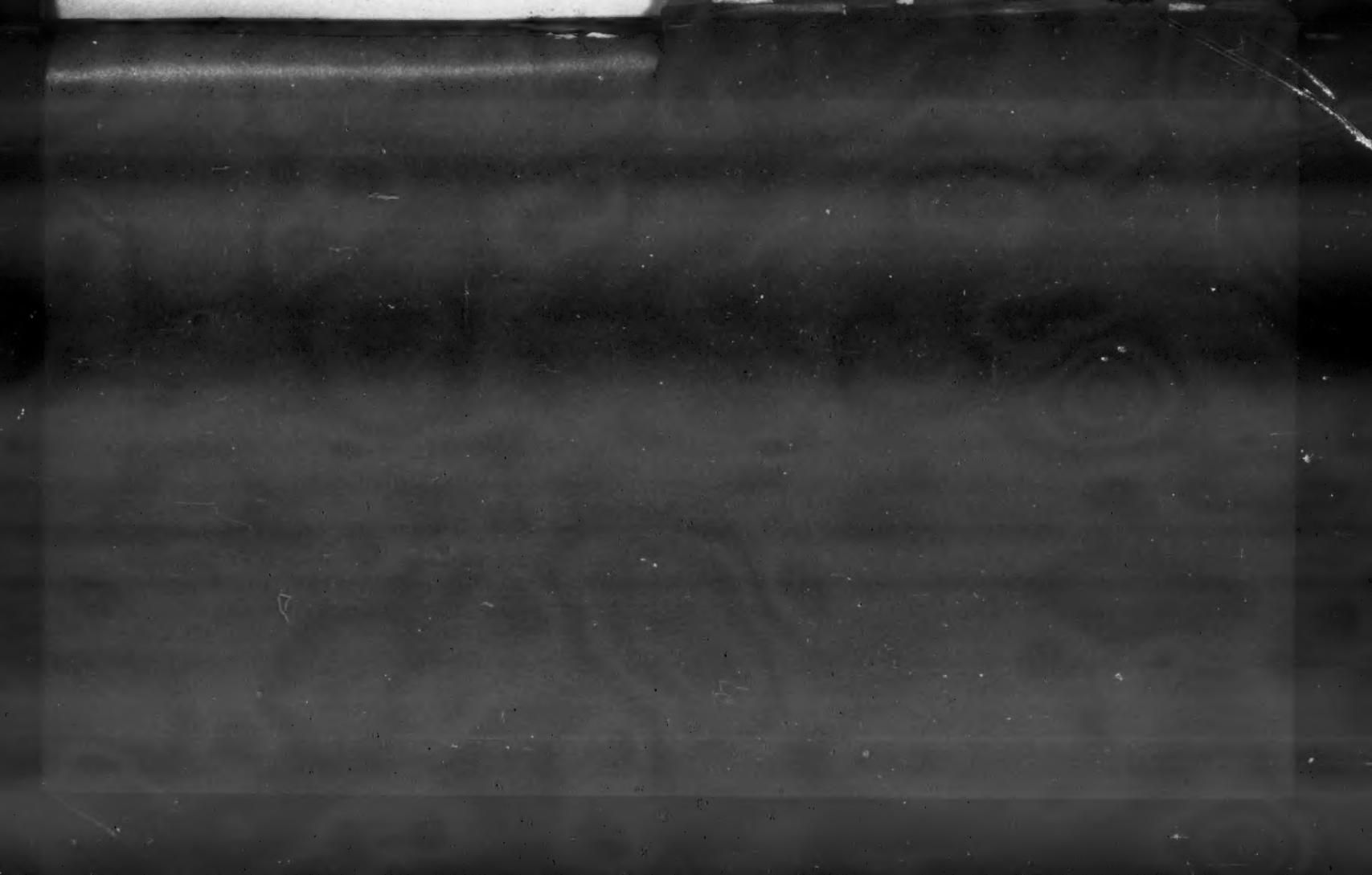

AMERICAN ANNALS OF THE DEAF.

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HEREDITY IN ITS RELATION TO DEAFNESS.

IN entering upon a discussion of some phases of heredity and their bearing upon the transmission of deafness, one may well hesitate before opening up so vast and varied a field of inquiry as the subject presents, for the questions that arise, to be fully discussed, require special training in embryology, a good knowledge of anatomy and physiology, some experience in otology and its kindred branches, familiarity with biology as a science, observation as a practical breeder, a general acquaintance with the science and literature of anthropology, especially of that department of it represented by Sir Francis Galton, together with some knowledge of the deaf, their education, number, occupation, social life, and vital statistics. If the consideration of this subject awaits treatment until some one shall appear possessing all these qualifications, it is to be feared that there never will be an opportunity to find out what it is in deafness that makes it hereditary. Approaching the subject as a student along certain lines of anthropology, I find the field wide enough to pardon some deficiencies in special training, while broad enough to allow the introduction of many sides of the question pertaining to inherited deafness. It is the office of the anthropologist to take advantage of what has been done by contributive science, and to systematize that in its bearings upon man, his descent, and his social destiny. This men like Galton, Wallace, Weismann, and many others are doing for us in connection with their own original researches.

There are two laws of universal tendency among men and animals, known, respectively, as the law of uniform transmission and the law of variation. The first of these—the law of inheritance—is as inexorable in its operation as the law of gravitation. So uniform is the transmission of life, that man, the

world over, has the same form, the same structure, the same physical and mental peculiarities, differing sometimes in degree, but never in kind. The homogeneity of the human family is not only a fact now, but so far back as we go in the history of the world, reading inscriptions on altars, pillars, triumphal arches, and tombs, studying the testimony of the rocks, and all that archæology has revealed to us of the remote past, the identity of man with his primitive ancestors is one of those indisputable facts upon which science may be said to be agreed. Professor Rudolph Virchow, of the University of Berlin, in an elaborate article on "Anthropology in the Last Twenty Years," maintains that the investigation of pre-historic lake dwellings and caves reveals to us men whom we need not be ashamed to recognize as brothers. After studying the different types of man in ancient Egypt, the professor exclaims, "Thus the permanence of types, for 3,500 years, is assured."

Without raising the question of the origin of the present permanent races of mankind, we find that this law of uniform transmission stamps upon one race its peculiar color and physiognomy, transmits to another its stature, and to another characteristics of hair and eyes; so universal are these facts that mankind have embodied the result of their observation in the familiar proverb that "Like begets like." Nor is man's physical nature the only thing inherited; of hereditary genius there is no question, and the transmission of man's moral nature is one of the well-beaten truths of theology. Modern instances of a predisposition to crime are seen, not only in the four hundred and nineteen families connected by marriage in Indianapolis who have become notorious for their criminal propensities, but also in the more numerous Jukes family, consisting of twelve hundred persons, whom Mr. Dugdale, of New York, has traced to a common ancestor—a family that has cost the State thousands of dollars, and which has been found for several generations in all grades of the delinquent and dependent classes.

There is, however, another principle, just as pronounced in its operation, and as impossible to control, as the law of uniform transmission. This is the law of diversity. It has been clearly shown by Mr. Darwin that the tendency to vary is itself hereditary, and every new generation but intensifies the habit to deviate from the original stock. The more extensively this tendency has occurred in the past, the more certainly will it

occur in the future; so that there is every reason to believe that there never will be an end to variation. The phrase "tendency to vary" has been criticised as assuming a consciousness in the germ to work out the inherited result, but this is probably due to the impossibility of using language free from a teleological suggestion, rather than from any such assumption in the words themselves. Not only is this tendency deeply rooted in the race, but we find also that by disease, by food, climate, and occupation, by human selection and what are termed "freaks of nature," this tendency is further increased. It is variation that makes individuality possible. Absolute uniformity of descent would put an end to all human society. Unity in diversity and diversity in unity are principles running through all that constitutes life. The deviations from the parent stock which sometimes occur are of so strange and violent a character as to defy all scientific explanation. "I have often," says an Italian physician, "asked myself the question, whence it arose that from deformed rustics and females of hideous features girls of such ravishing beauty should arise as those I see about me." What principle of heredity can be assigned for the appearance in a family of normal parents of four dwarfs in succession with four sons of average stature? for the presence of hare-lip and its transmission for a century? for three generations of a porcupine man? for the seven children of parents with no disposition to suicide all taking their lives before they were 40 years of age? for three and four generations of suicidal mania? for the presence of supernumerary digits? for two brothers marrying two sisters and the children of both marriages being albinos? for all the monstrosities and abnormal developments which are constantly occurring among all forms of organized life? Darwin's chapter on inheritance in "Animals and Plants Under Domestication" contains a long list of the many inexplicable variations which have come from the transmission of human life.

From what has been already said it will be seen that there is no limit, in one sense, to the number of varieties. The word "variety" is used by writers sometimes as equivalent to race or species, and, again, for individuals. In speaking of a deaf-mute variety, what is meant is that, by the intermarriage of deaf-mutes, in process of time, a race will be formed which shall transmit their defect generation after generation, just as the present races of men now transmit their characteristics. It

is one answer to this theory to say that never in the history of mankind has natural selection propagated a defect. It is true that selection, by which the fittest are born, and natural selection, by which the fittest survive, have both failed as to man. Man cannot be governed in his selection as animals are controlled, and all analogies from the lower animals to prove the possibility of a deaf-mute race are not pertinent when applied to man, for in him the tendency is to fixity and to increased homogeneity. Even granting that the present races and subraces of men have been evolved from some fortuitous variation under the influence of natural selection, the process has been accomplished so silently as to be altogether imperceptible; but that a variety should be originated *per saltem* is inconceivable. There is no differentiating mark among the deaf which is exclusively theirs. A great number of the blind, the insane, and the idiotic are also deaf, leaving the so-called variety without any distinguishing attribute. Again, the number of sporadic cases of deafness is so overwhelmingly large, compared with the number afflicted with hereditary deafness, that there is no real comparison between the two classes. If otter sheep, polled cattle, albino mice, and pouter pigeons were produced in greater numbers from scrub stock than by artificial selection, there would soon be an end to fancy prices for special breeds, and to the stock itself. No man would waste time and money to perpetuate breeds of cattle if there were a constant supply at hand, and this would be especially true if the breed selected could not be depended upon to produce more than five to ten per cent. of the desired variety. Speaking on this subject, Darwin says: "When from the nature of the organism and other conditions modifications are induced which are unimportant for the welfare of the species, they may be, and often are, transmitted in nearly the same proportion to numerous otherwise modified descendants." Wallace, commenting upon this, maintains that "such varieties are unstable and are constantly reproduced in varying proportions; they could never become species unless the variation in question be beneficial, when it is fixed by natural selection."

In all artificial or methodical selections it is a matter of common experience that the result of fortuitous variation in one generation is equal to the result of disuse in a thousand. (Wallace, "Darwinism," p. 435.) Leicester sheep have been bred with most scrupulous care for more than a century, yet

black sheep occasionally appear. Were it not for the rigid exclusion of these black varieties, the white-fleeced Leicesters would soon come to an end. From polled cattle of long pedigree horned individuals are occasionally found, so impossible is it wholly to overcome the principle of reversion. Not only is the raising of a new breed dependent upon the most precise and methodical selection, but the process must be under one controlling intelligence. Two gentlemen, Mr. Buckley and Mr. Burgess, both undertook to raise Leicester sheep. It is affirmed that these gentlemen have not deviated in any respect from the true blood, but the two sets of Leicesters present all the appearance of two separate breeds. Dark-colored pigeons from time to time produce single white individuals, and this is also true of rabbits. If after the most careful and methodical selection and isolation it is impossible to kill the tendency to revert to the original type, how could it ever be possible among individuals, where artificial selection is impossible, where there is no distinctive character to be bred for, where the caprice of human volition enters into the problem, where there is constant admixture with individuals possessing some degree of hearing and there exists a general suspicion of those whose deafness is more than a generation old, to evolve a race which shall overcome the excess of inheritance from millions of preceding ancestors? All the analogies of human generation and all the teaching of evolutionary science declare this to be impossible. There are some things that defy transmission. The crested canary and certain poultry cannot be reproduced. Upon statistics presented by English schools Mr. Darwin classes deaf-mutism as one of the things not inherited. That deafness is found in the third and fourth generation of a few families is unquestionable, but all that has been observed and chronicled of the deaf can be paralleled by facts of a much graver character. Insanity is known to be hereditary; the percentage varies, but at some places it has been found to be as high as sixty-five per cent. The Census of 1880 revealed the fact that out of 6,250 responses to circulars of inquiry in regard to the insane it was found 3,885 persons had relatives similarly afflicted, and out of 9,000 responses from families where idiots are found 4,481 reported relatives similarly defective. Not the least alarming note of the Census of 1880 was the appalling fact that thirty-eight per cent. of the insane and 4,170 idiots were married. Serious as the fact may be, the

transmission for several generations of some defect has not been uncommon. The family of Le Compte, children and grandchildren, to the number of thirty-seven, became blind at ages varying from seventeen to twenty. Cuvier, as cited by Dr. Elam ("A Physician's Problems," p. 57), mentions a family in which day blindness was transmitted for two centuries, and where by intermarriage a large district (the Commune De Vendemain) had become seriously overspread with it. Such transmissions are calculated to fill us with the most pessimistic forebodings of human life. We are not, however, to take a too gloomy view of the future, for there are many sides of the question more encouraging. Yet the fact cannot be reiterated too often and too impressively that those who marry foolishly and indiscriminately will certainly pay the penalty in sickly and defective offspring. What, then, shall be done to remedy this state of affairs? Let the distinguished Wallace answer: "I therefore strongly protest against any attempt to deal with this great question by legal enactment or by endeavoring to modify public opinion as to the beneficial character of monogamy and permanence in marriage." (*Fortnightly Review*, September, 1890.) Education is the only remedy that can in any way mitigate the ills which mankind are liable to transmit to their descendants.

In the discussion of heredity it is to be noted that Dr. Galton, as an anthropologist, and Dr. Weismann, the most eminent of modern biologists, have, independently, determined upon the non-heredity of acquired factors. There is no doubt that heredity as a solution for many of the facts of inheritance has been pushed far beyond its legitimate office. Says Professor Virchow: "I have from the first appearance of Darwinism endeavored to modify the teaching of heredity. I recognize heredity, but I have always insisted, and do now insist, that with man all heredity is partial." ("Correspondenz-Blatt der Deutschen Gesellschaft für Anthropologie, Ethnologie, und Urgeschichte," September, 1889.)

Those who have been preaching with so much ardor the doctrine of heredity have never failed to cite the case of Brown-Sequard and his seven generations of epileptic guinea-pigs. The experiment carried out by Brown-Sequard was considered a demonstration of the fact of the heredity of acquired defects; but Dr. Weismann, in his recent "Essays on Heredity," proves that the mutilation practised by Brown-Sequard—the section

of certain nerves—was not inherited, "but the resulting epilepsy, or a general state of weakness, deformity, and sores, was sometimes inherited."* Dr. Weismann discusses other cases of the supposed inheritance of acquired factors, and shows that all can be explained in other ways. In the case of deaf-mutes I do not know of a single family where deafness can be traced for seven generations, and of those noted deaf families now living nearly every one can follow the inception of the infirmity to some acquired defect. But before discussing the influence of disease in propagating deafness, there is a modern example of an endemic affliction which has also been attributed to heredity. In certain Alpine districts there has been generation after generation of cretinism and goitre. The majority of these cretins are deaf-mutes. That intermarriage should render the people of these districts more susceptible to the affections common among them is beyond question, but it is now discovered that removal from the afflicted districts puts an end to the transmission of the defect, and the introduction of pure living water into some of those places has been followed by immunity from the disease. The keenness of the Indian in pursuing a trail was also attributed to the influence of heredity, but white trappers in one generation have proved themselves equal to the skill of the Indian. Missionaries in leper districts are trying to rescue the children of lepers, for they find that the disease results not so much from heredity as from contact. Freeing the children from this danger, prevention is possible. These facts are especially pertinent in the discussion of hereditary deafness. Of the influence of disease in transmitting this misfortune there is plenty of evidence. The most clear and philosophical statement of the case I have been able to find is the following: "The power of organisms to transmit their properties to their offspring appears to me to be only conceivable in such a manner that the germ of the organism by its chemico-physical composition, together with its molecular structure, has communicated to it a fixed direction of development." (Dr. Weismann, "Theory of Descent," p. 667.)

There are far more people afflicted with deafness than is generally supposed. Normal hearing is as rare as total deafness, and between the two extremes there are all possible

* Wallace on Darwinism, p. 441.

degrees of audition. Yet, notwithstanding the prevalence of deafness, the chances of its transmission are very remote. "Let it be assumed," says Darwin, "that in a large population, a particular affection occurs on an average in one out of a million. Let the population consist of sixty millions, composed, we will assume, of ten million families each containing six members. On these data, Professor Stokes has calculated for me the odds that there will be no fewer chances than 8,333 millions to one that in the ten million families there will not be even a single family in which one parent and two children will be affected by the peculiarity in question." (Darwin, "Animals and Plants under Domestication," vol. ii, p. 14.) If we read *thousands* for millions in the above quotation, we have an analogous case to the condition of the deaf in the United States, and the computation is interesting as revealing the enormous odds against the transmission of deafness through the general population. There are, however, certain districts in the United States where deafness may be said to be endemic. The facts gathered in support of the theory of a deaf-mute variety are mainly from these localities.

The problem of hereditary deafness becomes very much complicated when we come to inquire into the causes of it. In some of its aspects it is like discussing hereditary cough; both are the result of a great number of possible physical states. Speaking popularly, I find that deafness may be caused by some malformation of the tubes, bones, muscles, membranes, or nerves of the ear; it may result from obstruction of the external ear; from thickening, perforation, or inflammation of the membrana tympani; from ulceration of the middle or internal ear; from some obstruction in the eustachian tube; from an abnormal arrangement of the three thousand minute fibres lining the cochlea, which fibres are the terminations of the acoustic nerves; concretions of wax may block up the external meatus; the presence of polypi may render audition impossible; the external ear may become hypertrophied as in idiots; or the auditory fluid may become charged with bloody matter and the vibratory action so necessary to distinct hearing may be thus destroyed.

Of specific causes producing these various irregularities, we find that locality, consanguinity of parents, a strumous and delicate habit of body, accidents, and mental impressions on the part of the mother before the child is born, have all of

them an undoubted influence in the propagation of deafness. It is well for all those who are studying hereditary deafness to remember that in all departures from original types, due to disease, there is a constant tendency to return to the norm as soon as the disturbing influences are removed. Change of location, lapse of time, or a succession of generations, giving careful and special attention to the laws of health, would not fail to have a healing influence upon vitiated constitutions, and the bias to disease would be thus removed. The afflictions which are peculiarly prone to produce deafness not only have a beginning, but also a period of culmination. "The effects of disease may be for the third and fourth generation, but the laws of health are for a thousand." (Dr. Elam, "A Physician's Problem," p. 13.)

Of the predisposing causes to congenital deafness, first in the order of frequency and importance are scrofula and consumption. "A strumous and delicate habit of body is the most common cause of deafness." (Dr. Harvey, Encyclopedia Britannica, article "Deaf and Dumb.") The reports of the Yorkshire (England) and New York Institutions show that from twenty to twenty-five per cent. of the pupils have lost one or both parents before coming to school, "a sure sign," says one authority, "of a feeble constitution." One-third of the pupils in the last class under the care of the writer were in this condition. The claim, also, that the deaf are as prolific in offspring as ordinary people is far from correct. Of the more than six hundred marriages of the pupils of the American Asylum, more than forty-five per cent. have been without issue. Those who have worked long among the deaf cannot fail to have noticed the prevalence of suppurative ears, of skin diseases, sore eyes, erysipelas, affections of the glands and tonsils, all pointing to a diathesis sufficient to account for this deprivation. The information presented to the British House of Commons leaves no doubt that scrofula is responsible for a large percentage of deaf-mutism, seventy-five per cent. of the cases in some countries being attributed to this cause. ("Papers Respecting Deaf-Mutes," p. 62.) A number of years ago Professor Samuel Porter, now of the National College at Washington, made a careful study of the relation of scrofula and consumption to deafness. He found that out of 92 starred pupils in four of the German schools there were 39 known deaths from consumption; of the 20 deceased pupils of the

Leipsic school 17 died from disease of the lungs. In 84 known causes of death among the pupils of the American Asylum he found that 41 had died from consumption and other lung diseases. (Report of the Second Convention of American Instructors, p. 162.) I have been taking note of the prevalence of consumption among the deaf of New England, and I am surprised at the frequency with which I hear of one and another suffering from it. Two of the pupils in the last graduating class had lost each a parent by consumption, and another pupil has been since reported as afflicted with it. In the past five years five pupils have been obliged to leave school from this cause. Catarrh and catarrhal colds are also a common cause of deafness. "The condition of the ear, as reported by skilful aurists, indicates that affections of the ear have their origin in inflammation of the naso-pharyngeal mucous membranes, and these constitute the vast majority of all diseases of the ear, and consequently deafness. Hence, it is highly probable that what is called congenital deafness is not congenital in fact, but due to chronic catarrh of the middle ear soon after birth or in early infancy." (Report to British House of Commons, p. 61.) When we remember the privation and hardship attending the early settlement of New England, there is nothing incredible in the inference that these early struggles induced those common affections which so often injure and destroy the organs of hearing. A study of some of the families where deafness has existed for several generations ought to convince the most skeptical that what is transmitted is some insidious disease producing deafness, which disease, however, in time, appears to run its course, and a normal condition of life returns.

I have selected a few families which have become historical for the number of deaf-mutes found in them, and it is interesting to note the transmitted results.

Descent.	Relationship.	Marriages.	Children.	Deaf-born.	Became deaf from disease.	Deaf sons.	Deaf daughters.	
1. Hearing.	Ancestor	Hearing wife.	1?	1				
2. Deaf.....	Son.	Hearing wife.	2	2	.....	1	1	
3. Deaf	Grandson.....	Deaf wife.	2					
4. Deaf.....	Great grandson	Hearing wife.	1	.....	.....	.....	.....	Has one hearing son.
5. Deaf.....	Granddaughter	Hearing husband.	3	1	1	2	.....	One son hears. One son was born deaf in one ear, became totally deaf at 10 years from measles.
6. Deaf.....	Great grandson	Deaf wife.	4	2	1	1	2	Son of No. 5 in the table; has one hearing daughter.
7. Deaf.....	Great grandson	Deaf wife.	5	.....	2	.....	2	Son of No. 5.
8. Deaf.....	Great-great-granddaughter.	Deaf husband.	0	.....	.....	.....	.....	Had one child, still-born. No. 8 is daughter of No. 6.
9. Deaf.....	Great-great-granddaughter.	Deaf husband.	4	.....	.....	.....	.....	No. 9 is daughter of No. 6. She has 4 hearing daughters.

From this table it will be seen that in the fourth generation of the agnate line there are no deaf children, the only child from this union being a hearing son, while in the fifth generation of the other branch all the children hear. It is a point worth noting that of the five hearing children of the fourth generation two lose their hearing by disease. There must be some good reason other than heredity for the loss of hearing in these two last cases.

Another family noted for its large number of deaf children is the Surber family, of Iowa (Dr. Bell's Memoir, p. 31), consisting of a deaf-mute father and twelve children. From the record of this family we learn that only one of the twelve children was born deaf; the fourth, fifth, sixth, and ninth lost their hearing, in whole or in part, after birth, at what age we are not informed. Thus of the twelve children the first three and the last three could all hear. The fact that of these five deaf children only one was born deaf, and that among the

others deafness was not total, indicates that there have been influences at work other than the force of heredity. In the Huston family (Dr Bell's Memoir, p. 31) we find that not only were the parents and grandparents related before marriage, but this cousin who intermarried and all his brothers and sisters were also hard of hearing or became deaf comparatively early in life. Of the ten children of the Huston family, three were born deaf and two became deaf from disease. If members of a family with defective hearing marry their cousins and the example be repeated in the next generation, it would be a remarkable instance of the failure of the law of inheritance if the children were not deaf, for the conditions for the transmission of the defect have been rigidly complied with. In the 11 families here noted, containing 44 children, 9 of the 21 deaf children lost their hearing by disease.

The existence of large families of deaf-mutes is a fact which has been known for many years. In 1859 the London Asylum published a selected list of 23 families, containing 160 children, of whom 105 were deaf. This was long before the time of the deaf-mute newspaper, the convention, or the extensive use of the sign-language, for these have just begun to make their appearance in Great Britain.

The children who come to the schools for the deaf are largely from the homes of the poor. We find that they need all the fostering care, all the regularity in food and exercise, all the attention to habits of cleanliness, all the education in hygiene, all the protection from the weather and from the perils constantly surrounding them by reason of their deafness in the streets of our large cities, all the help from medical science, which a well-appointed institution alone can give, and for these reasons, and others of no less weight, we of America still cling to the congregate system, believing that in building up these children physically we are using the best precaution thus far known against the transmission of deafness.

Locality.—It is very difficult to gather a sufficient number of facts in regard to the influence of climate to warrant a general conclusion. It has been observed in France that the irregular table lands which border the frontiers on the north, south, and east, and the uncultivated moors which extend to the borders of the ocean, produce the largest number of deaf-mutes. In these districts, as far back as 1850 there was known to be one deaf-mute to each eight hundred inhabitants. On the conti-

nent of Europe, the highest percentage of deaf-mutes is found in Norway and Switzerland; the higher regions of the Alps, the chains of the Pyrenees, the precipices of the Jura, the flanks of the Cevennes, and other rocky and rugged districts, contain twice the proportion of deaf-mutes found in the beautiful plains of the interior. What has been observed in Switzerland and France has also been noted in the British Isles. Scotland and the Pennine chain of mountains, in the north of England, are more afflicted with deaf-mutism than the flat portions of England and Ireland. There are lines of topographical hygiene in the United States, and a study of these lines reveals the fact that certain districts contain an unusual proportion of deaf-mutes. Martha's Vineyard has, in certain villages, one deaf-mute to every twenty-five inhabitants. If this proportion were true for the city of New York, it would give the city 60,000 deaf-mutes, but fortunately the number of the deaf is so small that the average citizen seldom comes in contact with them. In all the islands off our eastern coast there are social causes at work producing liability to disease, such as the intermarriage of relatives, the secluded habits of the people, ignorance of the nature and consequence of certain diseases, so that if a sporadic case of deafness should occur, the conditions for its transmission are already in existence. The severity of the New England climate tells most disastrously on the organs of hearing. There must be some distinct principle of causation for the excessive proportion of deaf-mutes in Nova Scotia, New Brunswick, Norway, and the canton of Berne, in Switzerland. The deafness of the people living along the cataracts of the Nile has been a tradition handed down from the days of Herodotus, but no facts have been recorded to enable us to judge of the accuracy of this report. Whether the localities above noted produce deafness by reason of excessive cold and humidity, or because of the water from multifarious ores used by the people, or whether deafness is due to some special telluric condition, or to all of these causes, separately prevailing in certain localities, is a problem yet to be solved.

Consanguinity.—For many years I have resisted the evidence, based upon what I was led to believe were questionable statistics, that blood marriages had any influence in producing the deprivation we are here considering, but a further consideration of the question compels me to believe that in the mar-

riage of relatives we have one of the most prolific causes of deafness. Statistics concerning the marriage of relatives are difficult to get, but from the sources of information at hand I gather the following facts:

Dr. Williams, of the American Asylum, at Hartford, in his report for the decade ending 1887, notes that 25 families, where the parents were related before marriage, had sent 57 children to that school.

Dr. Gillett, of Illinois, reports for his school 88 consanguineous unions among hearing parents, sending 110 deaf children to the State Institution at Jacksonville.

Principal Connor, of Georgia, reports that 69 deaf-mutes educated at the State School were the children of parents related by blood.

Principal Hutton, of Halifax, Nova Scotia, says, "Out of 120 families containing 189 deaf-mutes, of whom 131 were congenital, 45 were consanguineous marriages; *five-ninths* of the parents being *first cousins*." ("Facts and Opinions," p. 86.) The reports of the State institutions of Pennsylvania, Illinois, Georgia, and California, for 1877, gave statistics of the results of consanguineous marriages for that year, and reported 97 deaf children from 65 families. (*Annals*, xxii, 242.) The appalling results of consanguinity gathered by Dr. Bemiss, of Kentucky (*Annals*, xiii, 32), the testimony of Dr. Liebrich (*Annals*, xxvii, 193), "himself a Jew," concerning the excess of deaf-mutes resulting from intermarriage among the Jews of Berlin, and the opinion of Professor Mickel (*Annals*, xxvii, 193), that "the number of the deaf and dumb is in proportion to the facility allowed by ecclesiastical and civil authorities to marriage between relatives," furnish a mass of evidence on this question that is irresistible. There is an instructive example of this evil in Dr. Bell's "Memoir" (p. 30). The Grisson family, of Kentucky, consisted of several deaf-mutes. One of these, William, married a deaf-mute, and all the children could hear. One of his sons married his cousin, a hearing woman, and the five children of this union were all deaf born.

Of the effects of mental impressions of various sorts upon the unborn child, it is impossible to do more than to rehearse the few scattered facts found in various official documents treating of the deaf. The Irish census of 1851 recorded 127 instances in which the deafness of the child was attributed to fright experienced by the mother. At Leipsic, the deafness

of six children was attributed to a similar cause, while at Gronigen, the mothers of 16 deaf children ascribed their deafness to the harsh cries of a deaf-mute, and the melancholy and depression of spirits produced by it. Witnessing deaf-mute theatricals is said to have so affected two women of rank that their children were born deaf. Mr. Herbert Vallereux mentions several cases of deafness of this character in France.

Rev. W. W. Turner, a former principal of the American Asylum, at Hartford, finding in a small village in the south-eastern part of Massachusetts four families with 11 deaf children, made some inquiries of the parents as to the probable cause of deafness, and received from Mrs. M. a graphic story of the cause of deafness among her children. (*Annals*, i, 28.) The four families related circumstances of a somewhat similar character, all insisting upon the impressions of the mother in meeting deaf-mutes as producing the deafness of their children. It is noted of these four families that on neither side was there known to be any case of transmitted deafness. Mr. Turner next goes on to note five families containing deaf-mutes where the first-born became deaf from some form of disease. That the children following the first-born, in these families, were born deaf, indicates a probable apprehension on the mother's part that her offspring might be deaf, and this fear, working in that mysterious way which no one is able to understand, is believed to be the cause of deafness, not only in these five families, but in many others where the conditions are similar.

WM. G. JENKINS, M. A.,
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THE SCHOOL MUSEUM.

About ten years ago a few of our teachers devised a plan to make permanent and convenient the little collection of articles for object lessons which teachers are always gathering, but which are usually thrown away or lost after they have served the present need.

The plan proved so feasible, and the many additions to the original collection have been so easily made, that it has quite outgrown the first intention, and is now a valued factor in our daily work.

Our first step was to secure some four-ounce salt-mouth bottles, with glass stoppers; a number of labels, on which was

printed, ILLINOIS INSTITUTION FOR THE DEAF AND DUMB, SCHOOL MUSEUM, No. —, with a space left for the name of the article; and some cards, six by seven inches, folded so as to form four pages and slip easily into an ordinary envelope. These were furnished by the Institution.

The specimens were put into the bottles or placed upon the shelves of the Museum, where they were ready for immediate use whenever needed.

Miniature tools and household utensils, such as are found in toy stores, nails, screws, and other small articles, are hung on small screw-hooks in shallow cases, made of thin boards. By this arrangement a teacher can take out one article, or the whole case, as is most desirable. We now have ninety bottles containing specimens of fruits, nuts, seeds, the different grades of sugar, oils, crude petroleum, kerosene, various extracts, olives, etc. Upon the shelves are all the common minerals and metals, and some that are not common, though often spoken of in the text-books; hops, cotton, celluloid, rubber, articles of Chinese manufacture, books used by the blind, samples of carpet, and many other things. Pieces of the common varieties of wood were contributed by the boys working in the cabinet-shop; bird's-eye maple was brought by one of the teachers who had been visiting in Michigan; redwood by one from California; while another brought fine specimens of lava and coral secured during a vacation trip to the Sandwich Islands. In all we have over five hundred specimens.

Descriptions of most of the articles, in the form of lessons, have been written by the teachers. These have been copied upon the cards and are kept with the specimens. The article on cloves, here introduced, is given as indicating the style of lesson; the questions will suggest themselves to any teacher.

CLOVES.

Cloves are the dried flower-buds of a kind of myrtle tree which grew first in the Molucca Islands in the Indian Archipelago. The tree grows four or five times as high as a man. It is an evergreen and very beautiful. It has a smooth bark and a straight trunk which branches about half way up; the branches grow smaller toward the top, and when covered with leaves form a kind of pyramid.

The flower-buds are picked before they begin to open, and are dried in the shade. The little ball at the end of the clove is the flower folded up.

Cloves are used as a seasoning in cookery. The oil of cloves is largely used in making perfumery, and is sometimes given as a medicine. Cloves are now raised in Sumatra, Zanzibar, the West Indies, and Brazil,

but the best ones are still brought from the Moluccas, where the tree grows better than anywhere else.

In the primary classes the descriptions are not often called for, but the articles are in constant use. At first the Museum was kept in a small cupboard in the closet of one of the school-rooms, but, having outgrown those quarters, is now conveniently arranged upon graduated shelves in a glass case placed in a central room of the school building. A catalogue of the collection has been made, and each teacher furnished with a copy. Its accessibility has greatly increased the popularity of the Museum, while its value as an educational element is easily illustrated: A pupil is sent to the teacher in charge of the Museum for the bottle of olives and one of olive oil, with which to fix the information given in the geography lesson that olives are an important product of Spain, and that many of the people use olive oil instead of butter. One olive cut into small pieces, and a few drops of oil distributed among the class, establish the fact, and give them a lasting impression concerning the articles in question.

Quite frequently the accompanying description is written on the large slate, and on the following day is made the basis of a language exercise.

Should others be stimulated by this description to form a Museum, I hope they will not be deterred by the fear of expense. If it is not expedient to start with the outfit described, such bottles as can be contributed, common corks, and written labels will answer the purpose in nearly every case. All that is needful is a little enthusiasm, and a place to keep the articles when collected. In concluding, the thought comes to me that by judicious exchanges the museums in different institutions might be enlarged. If the idea is favorably received, I shall be glad to hear from those interested in obtaining articles peculiar to this State.

MISS ANNIE MORSE,
Instructor in the Illinois Institution,
Jacksonville, Ill.

THE MANUAL ALPHABET IN COMMON SCHOOLS.

[It will be remembered that at the New York Convention last summer a resolution presented by Dr. Philip G. Gillett, Principal of the Illinois Institution, requesting the President and Secretary of the Convention to confer with the managers of the American Book Company, in relation to the printing of the Manual Alphabet in some of their publications, was unanimously adopted. The following correspondence shows that the request of the Convention has been complied with in a satisfactory manner.—E. A. F.]

New York Institution for the Instruction of the Deaf and Dumb,
Station M, New York, *January* 28, 1891.

To the Managers of the American Book Company.

Gentlemen: At the "Twelfth Convention of American Instructors of the Deaf and the First International Convention in America," held at the New York Institution for the Instruction of the Deaf and Dumb, Washington Heights, New York city, the following resolution was unanimously adopted:

Resolved, That the President and Secretary of this Convention be requested to confer with the officers and managers of the American Book Company upon the advisability and importance of including in some of their publications a print of the Manual Alphabet, with a short chapter upon its history and use, and to call their attention to the great convenience and helpfulness it would afford in every department of social, domestic, and business life, among hearing as well as among deaf persons.

Seventy-seven schools for the deaf in the United States and seven for the deaf in Canada are represented in this request. There were in attendance Dec. 1, 1890, at these several schools of the United States, 7,546 pupils, in those of Canada 689 pupils, under 740 instructors.

If, in your judgment, the printing of the Manual Alphabet shall seem wise and expedient, I shall be glad to furnish you with a copy of the *standard* Alphabet, and also with any further information you may desire.

Very truly yours,

E. H. CURRIER,
Secretary of the Twelfth Convention of American Instructors of the Deaf.

EXECUTIVE COMMITTEE AMERICAN BOOK COMPANY,
806 AND 808 BROADWAY, NEW YORK CITY,
January 28, 1891.

MR. E. H. CURRIER.

DEAR SIR: Your esteemed favor of even date herewith is at hand.

We are glad to receive the resolution passed by the Convention of which you are Secretary, as it is thoroughly in accord with our intentions. We shall place the Manual Alphabet in the first new primary book we issue. We shall also, in case of revision or changes, put the same in such standard books as are most used by the children throughout the United States.

We have a Manual Alphabet already engraved which we should be pleased to submit to your inspection, to learn whether it is in accord with the standard.

Very respectfully,

AMERICAN BOOK COMPANY,
By HENRY H. VAIL.

NEW YORK INSTITUTION FOR THE INSTRUCTION OF THE DEAF AND DUMB,
STATION M, NEW YORK, *January* 29, 1891.

HENRY H. VAIL, Esq.,
American Book Company.

DEAR SIR: Your favor of yesterday is at hand. It is especially gratifying to learn that the American Book Company are already proposing to take the step so earnestly desired by the members of our profession. The Manual Alphabet sent by you, while correct in most respects, is stiff and inartistic, and in this new departure I am quite sure that it would be far more acceptable to all interested in the welfare of the deaf if you were to follow the style of the alphabet enclosed. This was drawn and engraved from photographs, under the direction of Professor J. C. Gordon, of the National Deaf-Mute College, Washington, D. C. It is correct, artistic, and is considered the finest manual alphabet ever printed.

The large size will, I fear, require more space than you would care to give; the smaller will not require a very much larger page than the copy you send. In case, however, you should find it too extended, a reduction could easily be made from the larger to fit your standard page.

Very respectfully yours,

E. H. CURRIER.

AMERICAN BOOK COMPANY, EDITORS' ROOMS,
806 AND 808 BROADWAY, NEW YORK, *January* 30, 1891.

Mr. E. H. CURRIER.

DEAR SIR: Your favor of the 29th comes to hand with enclosure.

I am glad to receive the large engravings of the Manual Alphabet. It will be necessary to have our page re-engraved, as it will be advisable to place the whole upon one page. Your criticism is valid and renders this page useless for general purposes.

Very respectfully,

HENRY H. VAIL.

NEW YORK INSTITUTION FOR THE INSTRUCTION OF THE DEAF AND DUMB,
STATION M, NEW YORK, *February* 4, 1891.

HENRY H. VAIL, ESQ.,
American Book Company.

MY DEAR SIR: Upon my return to the city after a brief absence, I find your favor of the 30th ult. Permit me, as the representative of the members of the "Twelfth Convention of American Instructors of the Deaf and the First International Convention in America," to thank you for your courteous response to the suggestion of the Convention, and also to assure you of the very thorough appreciation of your concurrence therewith.

Very truly yours,

E. H. CURRIER.

A CORRECTION.

IN an address delivered by Mr. Gardiner Greene Hubbard at the twenty-first anniversary of the Horace Mann School, Boston, Mass., he says (see *Science* of Dec. 19, 1890, pp. 337 and 338):

> In 1860 my little girl lost her hearing through a fearful illness. She was a bright, intelligent child of four years, but her language was lisping and imperfect. When convinced of her deafness, our great anxiety was to retain her language, and to know how we might carry on her education. We asked advice of one of the oldest teachers of the deaf. "You can do nothing," was the answer. "When she is ten years old, send her to the Institution, where she will be taught in the sign language."
>
> "But she still speaks. Can we not retain her language?"

"She will lose it in three months, and become dumb as well as deaf. You cannot retain it."

Advocates of a cause sometimes forget the details of a struggle, in which they are so absorbed in their determination to carry their point that they fail to give credit where credit is due; they fail to see any good in those who stand opposed to them, and attribute to them positions which they do not hold. This seems to be the case with Mr. Hubbard. To show this let me go back a little. Mr. Hubbard attended the Eighth Convention of American Instructors of the Deaf, held at Belleville, Ont., July 15–20, 1874. In that Convention he made much the same statement as that quoted above. From pages 111 and 112 of the Report of the Proceedings I quote the following:

Mr. HUBBARD, addressing the Convention, said that at the age of four years his little girl lost her hearing, and when he inquired of several gentlemen engaged in deaf-mute instruction what he should do with her, he was told to wait until she became ten or twelve years of age, when she could be taught by the beautiful language of signs.

Mr. D. E. BARTLETT wished to ask Mr. Hubbard if all of his friends had advised him thus.

Mr. HUBBARD said: "*Yes; all his friends, not excepting his friend Mr. Bartlett.*"

Mr. D. E. BARTLETT would remind Mr. Hubbard of what he had always advised him, both in private conversation and public debate, viz., to lose no time and spare no pains in doing all they could to aid the child in retaining her power of speech and practice of speaking. He regretted, however, that his friend Mr. Hubbard had been led by his intense dislike to the language of signs to forget so persistently the kind advice of his friends.

That Mr. Bartlett was correct in his statement, and that Mr. Hubbard forgot to remember any good in those whose views did not wholly coincide with his, let the following admission of Mr. Hubbard, made when time had not yet so obscured his memory as to render the facts past recalling, bear evidence. I quote from the Report of the Joint Special Committee of the Massachusetts Legislature of 1867 on the Education of Deaf-Mutes. On page 201 of the appendix Mr. Hubbard says:

Our little girl lost her hearing when she was about five years old. She could talk a little. We consulted Mr. Gallaudet, the son of Dr. Gallaudet. We consulted with our good friend Prof. Bartlett, and with other gentlemen, and they told us the child could not keep her speech three months. Mr. Gallaudet said it was not worth while to try to keep her speech.

Prof. BARTLETT. I said, now is the time to begin. If you did not begin then, you would not keep it three months; if you began then, and made strenuous efforts, you could keep it. I certainly insisted on immediately beginning.

Mr. HUBBARD. What I should have said was, that Mr. Gallaudet* told us we could not keep the speech of that child three months. * * * *Mr. Bartlett told us to keep on* [the italics are ours], and he is the only teacher of deaf-mutes who gave us the slightest encouragement; and he told us he was afraid her articulation would be so unpleasant, even if we preserved it, that we should not want to hear her talk.

Prof. BARTLETT. I stated the difficulties strongly, because I wanted to stimulate you to make every possible effort. I want all the credit I deserve on that point.

Mr. HUBBARD. I say, you were the only person who gave us the slightest encouragement. Everybody else said that it was impossible to preserve her speech.

Mr. COLLINS STONE (Principal of the American Asylum). I hope you do not infer that I should take that ground at all. Mr. Bartlett has explained what he said. I am confident that Mr. Gallaudet would have said that if you did not constantly practice with that child, she would lose her speech. That is simply the ground I take, always. If a child has any articulation, you can continue it and improve it; but not without.

Mr. Hubbard sets the old teachers of deaf-mutes in a false light when he endeavors to make it appear that nothing was done in this country to keep up and improve the speech of semi-mutes before the establishment of the little school at Chelmsford. At "Old Hartford," from the beginning, pains were taken to keep and improve the speech of such pupils, and not a few went forth from her walls able to speak plainly and fluently. I have never seen better talkers and lip-readers than some old pupils I have met who graduated here long before the Chelmsford school ever saw the light. There were no special teachers of articulation in those early days, it is true, but each teacher was enjoined and expected to practice the semi-mutes in his class in speech.

To keep and improve the speech of *semi-mutes* was the chief aim of establishing the little school at Chelmsford. At the hearing before the Legislative Committee above referred

* President Gallaudet says that, while he has no distinct recollection of a conversation held so long ago, he cannot conceive of his having given Mr. Hubbard any advice different from Mr. Bartlett's, and the Rev. Dr. Gallaudet says that he does not recall any conversation with Mr. Hubbard in relation to his daughter. Certainly neither of these gentlemen would at that time have been considered "one of the oldest teachers of the deaf."—E. A. F.

to, Mr. Hubbard said (p. 206): "The experiment is to be tried of teaching *semi-mutes* articulation. * * * I am not wedded to the idea of teaching articulation to deaf-mutes; I doubt very much whether it can be taught to congenital deaf-mutes."

The experiment was to be tried at Chelmsford of teaching speech to *semi-mutes!* It had been tried and tried successfully at Hartford for *forty-five years*, and twenty years before Mr. Hubbard and his friends started his experiment forty pupils were under regular instruction there in speech and lip-reading at the same time. Ten years before the experiment was tried at Chelmsford a special teacher of speech and lip-reading was employed at the Hartford school—the first special teacher in that line in the United States. It was not thought best in those days by the management at Hartford to try to teach the congenitally deaf.

Both Mr. Hubbard and teachers of schools using the combined manual and oral method of instructing deaf-mutes have grown into a broader view of the possibilities of speech-teaching. Every pupil entering the school at Hartford has an opportunity to learn speech and lip-reading, and to receive daily systematic instruction in those branches. Of those now receiving such instruction 55 *per cent. were congenitally deaf*, and 20 per cent. more were not over two years of age when they lost hearing, making 75 per cent. too young ever to have had speech.

The increased time allowed to pupils in these days makes it possible to accomplish results now which were impossible with the limited time allowed pupils in earlier years. For the first eighteen years of its history, the regular time of pupils at the American Asylum was limited to four years, then for a series of years it was five years, and after that, for many years, six years. Many of the early pupils remained but three years, and a considerable number still less than that. The average length of time it has been able to retain its pupils during its whole history has been but little over five years.

What oral teacher now would consider it possible to give a class of congenital deaf-mutes a fair knowledge of written and spoken language and lip-reading, together with some knowledge of arithmetic and geography, in four or even six years? It could not be done with the mass of deaf pupils.

Toward the close of his address in Boston, Mr. Hubbard remarks (*Science*, Dec. 19, 1890, p. 336): "For the deaf our

system * * * opens to them, as to others, the treasures of written language." Does he mean to imply that the combined system meets less success in that line? Surely, if he is at all acquainted with the actual attainments in these two classes of schools, he must know that, comparing their pupils, those under like physical and mental conditions, the orally-taught pupil by no means has easier access to the treasures of written language than his fellow taught under the combined system.

JOB WILLIAMS, L. H. D.,
Principal of the American Asylum,
Hartford, Conn.

THE NATURAL METHOD.

The natural method of teaching language to the deaf is founded upon the manner in which hearing children acquire it, and is opposed to the system of teaching by rules of grammar, by model sentences, and by memorizing lessons.

This method has been long pursued in the Pennsylvania Institution for the Deaf and Dumb, and is one of the distinctive features of its system of instruction. The late B. D. Pettengill was a great advocate of this method, and was constantly writing and publishing articles in favor of it. His views may be found in former volumes of the *Annals.*

Let us call to mind some of the steps in the process by which a hearing child acquires language. The mother and nurse begin its education when it is only a few weeks old. They pat the baby's cheeks, and make it look at them and smile, and in this way they attract its notice and attention, and awaken its dormant mind to its surroundings. This may seem like a small matter, but it is of great importance to gain and hold a child's attention, for no advancement can be made in its education until the power to concentrate its mind is acquired. In like manner the first efforts of the teacher of the deaf should be directed to gain the attention and interest of his pupils.

While the mother gives her attention-lessons, she talks lovingly to the baby and arouses its sense of hearing by the sweet music of her voice. It is not long before the little one comes to recognize the voice and face of its kind friend, and makes known the fact to the delighted parent. From unconscious it has now advanced in its education to conscious existence,

and has acquired the use of three important senses—feeling, seeing, and hearing.

For a time the teacher stops at this point, constantly, however, repeating the baby's lessons, and showing off its intelligence to admiring relatives. But as soon as the child is old enough to grasp at things, the mother begins to teach the names of objects, such as doll, dog, cat, rattle, milk, etc. It is frequently shown these objects, and the names are repeated with each exhibition, till it comes to associate the names with the objects themselves. The time when a child begins to associate objects with words is a very interesting period in its life. It has made the discovery that there is a connection between articulate sounds and things, and its attention is henceforth directed to their perception. But what was done to bring this discovery about? Was the child directed to it by the parent? Hardly. All the parent could do was to put the child in the way, and leave it to find out the connection for itself. The ability of a child to make this discovery is the result of its intelligence, and distinguishes it from idiots, who are incapable of the performance.

The manner in which a child gains its conception of the relation of words to things should be significant to thoughtful teachers. We should not attempt to force knowledge into the minds of our pupils. We cannot "learn" them, as many erroneously say when using *learn* for *teach*; they must do that themselves. The best of teachers can only explain difficulties to their pupils and direct their minds into the paths of knowledge. After they have prepared suitable lessons and placed them before them, they should leave them to grasp and assimilate the ideas in their minds by their own processes of thought. Knowledge gotten without much help is better retained in the memory and is more interesting to the learners. Teachers may make lazy pupils and prevent them from becoming self-reliant by doing too much for them. In referring to his college course, President Woolsey, of Yale, used to say that he regretted he had once asked and received assistance in one of his studies. He felt that he could and should have mastered the difficulty himself.

Before a child begins to walk it often acquires the meaning of the verbs "come," "drink," "want," etc., and will show by its actions when addressed with the words, "Baby come," "Baby drink," and "Baby want doll," that it understands

them. It is only taught the names of actions of which it can have experimental knowledge. It would understand no others. But when it begins to walk, it requires words for the ideas that denote the dangers to which it is exposed in its enlarged sphere of action, and the parents begin to teach it such words as, "burn," "hurt," "fall," "cut," "scratch," etc. If the child attempts to examine the hot stove, the mother says in tones to awaken its fears, "Baby burn," or if its little hand gets lacerated on the point of a pin, she says pitifully, "Pin scratch baby," or if it gets a tumble, she says, "Poor baby fall." This baby language is very elliptical, and could hardly be construed according to the rules of grammar. Yet it is English, and contains the germs of sentences out of which the child eventually evolves fully rounded ones. While the child's mind is weak and developing, rudimentary sentences are more intelligible and better comprehended by it than if they were fully expressed. May not a deaf child's letter in broken English be better understood by a deaf friend of the same mental attainments than if corrected by a teacher before mailing? There can be no doubt that we correct the language of the deaf too much and teach them too choice English. Our fastidious treatment of their puerile efforts discourages them.

But we must return from our digression. Up to this time the child has made no efforts to speak. It has only listened, and learned to distinguish the meaning and correct sounds of different words which must be acquired previous to the utterance of them.

When a child is about ten months old, it begins to imitate articulate sounds and attempts to utter words it has heard spoken. It now knows itself as "Baby," and generally uses nouns in expressing its wants; as, "Baby apple," for "The baby wants an apple;" and if it has been hurt it says, "Baby hurt." Nobody thinks of correcting its language, and nobody laughs at its mistakes; but everybody seeks to encourage its efforts, for all language must be learned in this way. The first attempts are poor and made up of blunders, but progress is secured by continued efforts. No parent ever says to his child "You must not call yourself Baby, or say 'Baby hurt,' but say 'I am hurt.'" And then suppose the parent should begin to teach the immature mind of the child grammar; that "I" was a personal pronoun, of the singular number, first person, denoting the speaker, nominative case, and subject of the verb

"am hurt," and that "am hurt" was a verb in the passive voice, representing the subject as acted upon, and first person singular, agreeing with its nominative "I." What would be said of such a parent? He would be considered a fit subject for a lunatic asylum. And yet this is just what we do when we teach the undeveloped minds of our pupils grammar in order to teach them language.

No; the parent leaves the child's language alone. He knows that it is a creature of imitation, and that in time it will correct its mistakes by hearing how others speak, just as the ear learns to correct false notes in music by the discords. We all know how bad English grates on the ears of cultivated people. Musicians learn music by listening to good players and singers, and by playing and singing themselves. If a player strikes a false note, he plays over the part again and again till all the notes are correctly sounded and harmony is produced. Who ever heard of a music teacher that began his lessons by teaching his pupils the rules and theory of music? A music pupil does not begin to reason upon his art until he knows something of the art itself. In like manner we learn good language by listening to good speakers and reading good authors, and by carefully imitating them. To speak concisely, we learn the correct usage of our language. That is all. Custom, not grammar, regulates and prescribes the right use of language.

We do not wish to be understood to say that a teacher need not be familiar with the genius and structure of his language. He undoubtedly should, but he does not acquire these from a study of its grammar. The mastery of a language can only be acquired by thinking in it and by making use of it in speaking and writing, not by analyzing it.

The masterpiece of Greek literature, Homer's Iliad, was composed before Cadmus introduced the use of letters into Greece. The author or authors knew nothing of the exquisite language that they spoke except what they perceived to be the prevailing usage. The beautiful Vedas of the Sanscrit tongue were only put into writing in modern times. The composers of Homer and the Vedas had only the ear to guide them, no written models of any kind, and no grammars to refer to for rules of diction. If they had been compelled to think of the correct forms of speech in which to express their thoughts these wonderful compositions would never have been produced, for the attention would have been drawn away from the thoughts to

be expressed to the language in which to express them. For this reason writers are seldom able to compose well in any language except that of their native country. Modern languages are much simpler in form and grammatical construction than those of ancient times. Greek and Sanscrit are very elaborate and highly inflected, and composition in them from our point of view would be no easy matter. Yet all that the authors of Homer and the Vedas knew of them was the correct usage, or how they were spoken.

This fact should convince us that a knowledge of grammar is not essential to composition, and of no particular aid to the deaf in learning language. Its study is unintelligible to the young mind and beyond its comprehension. A child cannot understand the rules applicable to the language spoken around him until he has an extensive knowledge of it. How can he apply rules to what he has not learned and knows little or nothing about? It is ridiculous to think he can, and a scholar should not take up the grammar of his language until he is well advanced in his studies. Mr. Marcel says: "It may without hesitation be affirmed that grammar is not the stepping-stone, but the finishing instrument."

When the Greeks began to discuss the beauties of their language and restrict its composition to rules, their language and its literature began to decline. It is the use of a language that is needed, not its philosophy. We can speak and write a language no better because we can tell the inflections of its different parts of speech.

There is nothing more interesting or, to the intelligent mind, more wonderful than language. It brings us into communion with our fellows. An intelligent use of it is conducive to our happiness, but a wrong use of its words and a misapprehension of their meaning often produce bitterness, strife, and enmity. How careful, then, we should be in teaching and using it.

But what do we need to teach this wonderful instrument of the human mind? The answer is: Simply a knowledge of correct usage, which is only to be learned from our best writers and speakers, and the ability to impart it to others as we have received it.

If our pupils ever learn English, they must learn it in about the same way that we learned it. We heard it spoken; but as they cannot hear, we must show them how we use it, and make them use it in the same way. This we should do by talking

and conversing with them in writing on topics and subjects in which we and our pupils are interested. We should not call their attention to the language they are using, but to the thoughts they express in it. We did not, when children, think about the language we were learning, but about the thoughts we were expressing. We were interested in our play and in what we saw going on around us, and in our desire to express our thoughts and satisfy our curiosity we acquired the language. All children are anxious to learn and are fond of amusements. By making use of this propensity we can train and develop their minds. There is no reason why their curiosity should not be directed to the acquisition of useful knowledge, and their love of play to the performance of something useful. The kindergarten, which is founded upon the natural system, undertakes to accomplish these ends. The children think the school play, and so it is, because it diverts and amuses them. But the games they play teach them something that will be of use to them in after-life.

We should seek to find out the tastes of our pupils, furnish them with the means of gratifying them, and assist them as far as we can to develop them. Teachers oftentimes do their pupils more harm than good, because their methods repress originality and discourage genius. A child should be given the chance to be what God and his nature intended he should be. We may thwart his bent and turn him into another direction, but our triumph will not bring us much, if any, satisfaction. It is of great importance to the deaf that their talents should be developed and not repressed while at school. The sense of hearing affords its possessors opportunities to advance in knowledge and develop their talents after leaving school by social intercourse with better-instructed persons, but the deaf, owing to the loss of hearing, usually make little advancement when no longer at school, and often retrograde, owing to untoward surroundings.

Some teachers of the deaf think that their pupils can learn language by committing to memory and reciting portions of it *verbatim*. The method, however, is unnatural and contrary to the processes by which hearing children learn speech. If this were all that were required, the deaf would soon learn language. They soon become able to memorize lessons with ease, and oftentimes those who understand least of the sense will write them with most precision. They may have a vague conception

of what the passages mean, but are quite unable to take the language apart and rearrange it in the expression of thoughts of their own. From these facts we should learn that the language of lessons should not be memorized; only the ideas and facts they contain should be fixed in the mind and recited in the words of the pupil. These should be frequently recalled and rehearsed, and if errors in the thoughts and expression of them occur they should be corrected. If the language of each recitation differs from the previous one, so much the better. It is the proof that the pupil is gaining in power to express his thoughts. He may not do this in choice language; but what of that, so long as we can understand what he wants to say? His thoughts are the treasures of his mind; not the words with which he tells them.

We make too great use of signs in our schools for our pupils to make rapid advancement in language. English cannot be learned where they are in constant use, except imperfectly. It should not be studied by referring to signs for an explanation of the meaning of its terms. Explanations should be made in words with which the pupil is already acquainted. We always explain to hearing children what they want to know in English. Why should not the deaf be treated in the same way, at least those who have some acquaintance with our language? The only reason that I can assign for not pursuing the same plan with the deaf is, that by so doing we should have to put forth greater efforts. But the advantages of this course to the deaf would be invaluable. Where signs are used the pupils persist in thinking in them, whereas they should be taught from the first to think in English. They should not be allowed to express an idea in signs that they can express in words. We can never say that our pupils have learned our language till they come to think in it, and not in signs. Those who teach the deaf orally are right in prohibiting signs among their pupils. A person who wishes to learn French must lay aside his own vernacular for a time, and think and speak in French, till it becomes as familiar to him as his own tongue. He must not be simply able to express or think in English the French he reads or hears spoken. So long as he has to do that, he cannot be said to have acquired the language. But this is all that the deaf taught by the aid of signs are able to do. They think in signs and translate English into signs, which, by the abuse of them, have become their vernacular.

Teaching the deaf to write isolated or model sentences is

another erroneous way of teaching them language. This consists in selecting words and phrases which the pupils have not learned, and dressing up some thought in them to illustrate their use. Teachers who follow this plan suppose their pupils will be able by this means to make use of them when they have an occasion for them. But how unnatural! The mind is not a warehouse in which a great lot of unpacked goods is kept. Everything it has must stand the test of use. Nothing is kept in it that has not been used and found serviceable. Words only become a part of our mental furniture by actual use, and those which we do not use, and only know by ear or sight, make a very slight impression on the mind, and soon slip out of the memory when no longer heard or seen. A student of the classics, who has not opened a Greek or Latin book for a long time, often finds it difficult to translate a short passage from one of those works, because the words of the languages in which they are written never formed a part of his vocabulary.

Words and sentences, removed from their connection in a conversation or discourse, lose their force, become inanimate, and do not strike us with the meaning they possessed when they stood in the passages from which they were taken. For this reason it is difficult to write appropriate sentences upon words and phrases, as most sentences require the assistance of other sentences to make the sense and thought complete. Who, in writing, has not noticed this dependence of one sentence upon another; how they are locked together by modifying words and phrases; how a change in a word or expression will require a change in precedent and subsequent sentences; how meaningless a single sentence will appear by itself, and what stupid and erroneous opinions garbled passages will make the writer seem to hold!

The deaf should be made conscious of these facts and taught how to express continuity of thought. They can only acquire the process by the actual use of connected language, but not by writing compositions of their own at first. The teacher should dictate compositions till they learn the manner of connecting the expression of thought. Then they are ready for original work. This method is to be particularly recommended, as, during dictation, the teacher has control of the line of thought, and can teach his pupils to put down things relevant to the subject in their proper places and connections, and in this way assist to develop their reasoning powers.

Hence we perceive that writing model sentences is of very little assistance in learning the composition of a language, and time spent in the work is little better than wasted. Such work is not composition. If one should wish to learn to compose in a foreign language, it would be far better to translate long passages into it from some English author, and not short sentences, as has long been the custom. To prove the futility of the latter method, we have only to refer the readers of this article to students of Arnold's Latin Prose Composition. The object of the work is to teach the composition of Latin by translating a great number of English sentences into that language, according to the models of the author. Many bright students have spent weary hours over the lessons, but who ever heard of one that learned to think and compose in Latin from their study? The only good a student could obtain from work upon them would be a stock of Latin words and an acquaintance with the idioms of the language.

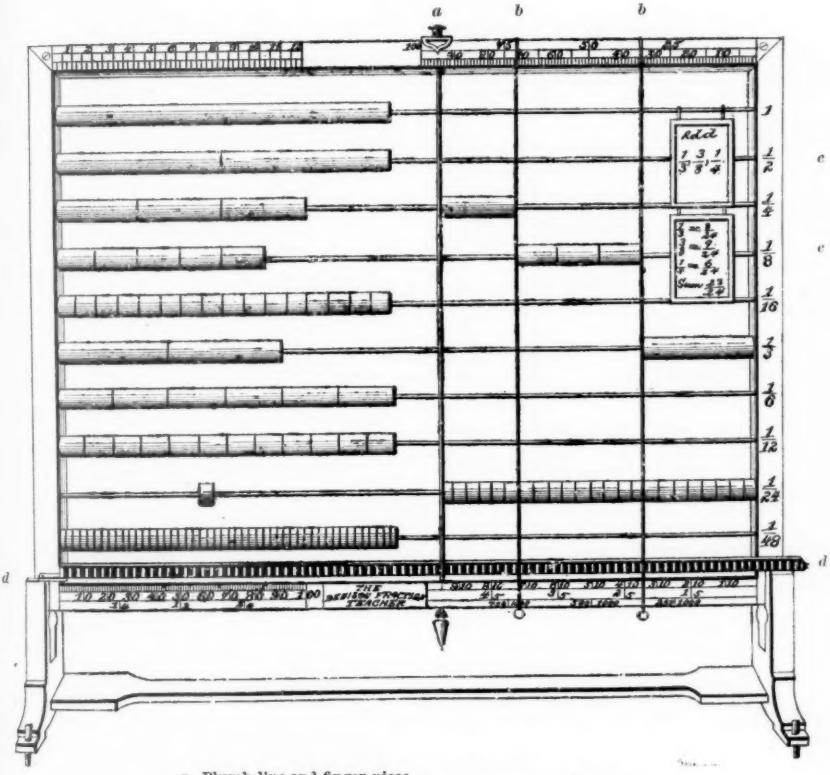
Suppose a student who had learned Latin composition from model-sentence building wished to write a letter in that language, how would he go about it? He would find the task rather tedious. As he had not learned to think in Latin, he would first have to write a letter in English, and then turn it into Latin, by recalling his models, and this is just what students taught by Arnold's system do.

Our pupils taught to memorize lessons, and produce model sentences containing words or phrases the teacher has explained, will no more learn English than Arnold's students learn Latin composition by susbstantially the same method.

We think, speak, and write English because, from infancy, we have heard and associated with hearing persons, and were able, therefore, to imitate their speech and learn to read their literature; above all, because our associates made use of no other language, and we had no other in which to express our thoughts. The deaf, also, can be made to master English when we present the language to them through English alone, as our parents and friends presented it to us. We may find the process slow and wearisome, but we shall not then, as now, be obliged to lament that very few of the deaf are ever able to acquire a command of our language.

J. D. KIRKHUFF, M. A.,
Instructor in the Pennsylvania Institution,
Philadelphia, Pa.

A NEW ARITHMETICAL DEVICE.



a. Plumb-line and finger-piece.
b b. Substitute lines to mark preceding position of plumb-line.
c c. *Papier-maché* slates with supporting hooks.
d d. Incomplete meter rule showing centimeters.

The above is a representation of the "Denison Fraction-Teacher," which I have invented and perfected.* As its name implies, it is a device to illustrate and explain—in short, to *teach*—fractions, both common and decimal, from simple definitions to the more difficult operations.

It consists of a rectangular frame 36 inches long by 27 inches high, on adjustable supports. The front of the frame

* Patent applied for December 2, 1890.

is of white wood, in order to bring out distinctly the numerals and scales marked on it. It is spanned by lateral wires, on which are movable cylindrical blocks of hard-wood "ebonized," whose single or united length on each wire is 16 inches. The uppermost cylinder is of one piece and represents the unit or whole number. The other cylinders show the same unit respectively divided into 2, 4, 8, 16, 3, 6, 12, 24, 48 equal parts, each fractional unit being marked on the corresponding portion of the frame on the right.

On the right of the upper horizontal bar of the frame a length of 16 inches, to conform to that of the unit block below, is divided into 100 equal spaces, representing hundredths, while on the same portion of the lower bar the equivalent length is given in fifths, tenths, and thousandths.

Through the slots which run the whole length of the two horizontal bars, a slender chain with a plumb-weight is attached to the movable plate and finger-piece which slides on the upper bar. Besides this chain or plumb-line there may be employed, as shown in the cut, additional lines or chains, with hooks for attaching them to the upper bar or to the wires. Their office is to mark the place previously occupied by the plumb-line in case of its change of position to demonstrate some other point.

The purpose of this plumb-line is to ascertain and mark the correspondence and equality of the various fractions represented by the cylinder blocks on the wires and the scales on the bars of the frame. Thus, when the indicating pointer of the sliding plate rests on the figure 50 of the upper bar, the blocks being closely massed on the wires to the right, this pointer and the plumb-line in concert will indicate the equality or identity in magnitude of the following quantities:

$$\frac{50}{100},\ \frac{1}{2},\ \frac{2}{4},\ \frac{4}{8},\ \frac{8}{16},\ \frac{16}{32},\ \frac{3}{6},\ \frac{6}{12},\ \frac{12}{24},\ \frac{24}{48},\ \frac{5}{10},\ \frac{25}{50},\ \frac{500}{1000}.$$

In a similar way it will show the same relation to one another of $66\frac{2}{3}$ hundredths and the fractions $\frac{2}{3}$, $\frac{4}{6}$, $\frac{8}{12}$, $\frac{16}{24}$, $\frac{32}{48}$, etc.

In the cut, in order to illustrate how to add $\frac{1}{3}$, $\frac{3}{8}$, and $\frac{1}{4}$, the block representing $\frac{1}{3}$ is detached from the two others and moved to the right. The plumb having shown $\frac{1}{3} = \frac{8}{24}$, is moved away and one of the marking lines substituted to still keep in mind the fact just ascertained. Then three $\frac{1}{8}$ blocks, representing $\frac{3}{8}$, are aligned close to the $\frac{1}{3}$ block, and, the

plumb-line having indicated $\frac{3}{8} = \frac{9}{24}$, another marking line is substituted. Then $\frac{1}{4}$ is shown to be equal to $\frac{6}{24}$, and their sum is indicated as $\frac{15}{24}$. This whole demonstration may, however, be performed without resorting to the substitute lines, if the teacher chooses.

Simpler yet is the illustration of subtracting one fraction from another. In seeking the difference between $\frac{1}{4}$ and $\frac{1}{6}$, the plumb-line shows $\frac{1}{4} = \frac{3}{12}$, and that $\frac{1}{6}$ placed on its wire in a similar position to that of $\frac{1}{4}$ corresponds to $\frac{2}{12}$, thus marking the difference as $\frac{1}{12}$.

As multiplication is a short method of addition, and division of subtraction, ways of illustrating their processes will readily occur to a teacher of arithmetic without further suggestion, and so need not be repeated here.

Since the integer or whole number is shown by the unit block or the sum of the fraction blocks on each wire, a mixed number is easily exemplified by the required number of entire groups of fractional blocks on the wires reinforced by an individual piece or pieces representing the desired fraction; thus, for $5\frac{2}{3}$, use the five upper wires for units and two $\frac{1}{3}$ blocks.

By lessening by $\frac{1}{8}$ the length of the aggregated blocks on the $\frac{1}{8}$, $\frac{1}{16}$, $\frac{1}{24}$, $\frac{1}{48}$ wires, and disregarding all other blocks and scales, one has the unit divided into 7, 14, 21, 42 parts, illustrating fractions with 7 and multiples of 7 for denominators.

By applying the same course to the 6ths, reducing them $\frac{1}{6}$, one has fractions with denominators 5, 10, 20, 40; and using 11 of the 12ths, and a proportionate number on the two wires below, there will be represented fractions having 11, 22, 44 as their denominators.

The small slates of *papier-maché*, with books attached, will be found of use to exhibit fractions having numerals different from those marked on the frame, or to indicate operations, as shown in the engraving.

Proceeding from fractions of abstract to those of concrete numbers, by taking, where it is practicable, three-fourths of the blocks on the wires, and massing them on the left instead of on the right, as before, the pointer of the sliding-plate resting on the figure 12 of the upper bar (representing the foot-measure in inches), the plumb-line will show blocks aggregating one foot, linear measure, divided into 3ds, 6ths, 12ths, 9ths, 18ths, 36ths, and on the lower bar the same length appears in 4ths and 100ths.

The illustrations of definitions and operations already described or suggested can thus be repeated here with fractions of a different order and magnitude.

In the engraving, the larger section of a meter rule, marked for centimeters in alternate dark and white, is shown resting on temporary supports just above the lower bar of the frame. This allows the use of the meter in conjunction with the plumb-line in order to teach the relation of its measures to the linear foot or yard. In the rapidly-growing use of the metric system in this country, this feature of the Fraction-Teacher will, it is hoped, be a recommendation.

A *resumé* of some of the advantages of using the Fraction-Teacher includes:

1. The saving in time. The time required to draw chalk-lines or circles, or to cut up fruit, paper, or any other substance suitable for the purpose, and to correctly divide and subdivide so as to show the required fractions, is considerable. Repetition is frequently called for, and this takes still more time, as the work, as a general thing, has to be done over again.

2. Its durability in material and solidity of construction, and consequent readiness for use on the shortest notice. Neither time, patience, nor strength need be frittered away in searching for something to be made an object-lesson in fractions.

3. The strength and clearness of the impression it makes upon the mind. It is something the pupil can *see*, and *handle*, and *measure* in all its proportions. Children often fail to perceive the relation and analogy between mere pencil or chalk lines and actual quantities. Even well-educated persons, considered proficient in arithmetic, have said that a short experience with the Fraction-Teacher has given them more thorough and satisfactory ideas of the nature of fractions and the principles that underlie their operations than they ever had before.

4. Its simplicity and reliability. The plumb-line appeals to the pupil as only a thing coming within his own personal experience and observation can appeal. He does not take the result reached on trust; he sees it, he *knows* it. This goes farther and produces a deeper and more enduring effect than the mere dictum of an instructor. The more the young pupil studies facts from the standpoint of independent and self-

reliant investigation, the firmer will be his step and the wider his outlook in the fields of knowledge.

5. It is comprehensive. It illustrates *all* definitions, principles, and operations used in fractions—embracing addition, subtraction, multiplication, and division. It includes in its work both common and decimal fractions, and fractions of both abstract and concrete numbers. It can be used in percentage. It admits of the use of the meter and other measures to show their proportionate relation to our linear foot measure. With the aid of the scales on the frame and on the meter, it may be made to serve as an object-lesson in mechanical drawing. The use of the plumb-line has, also, an educative effect in various ways outside of "fractions."

6. It is in a line with the present educational movement in favor of object-teaching, as exemplified in the popularity of kindergarten processes, and their increasing employment in the modern system of instruction. These methods are greatly appreciated and used by the more progressive Old World teachers, especially in Germany. Our work in primary schools not seldom falls short of theirs in thoroughness and real success. They seem to make more use of devices and illustrative apparatus, and to give more patient study to the difficulties that beset a pupil's mind in mastering an idea than we do. There are too many teachers among us who are not able to conceive how a scholar can not understand at a glance a thing so simple to themselves, as $\frac{2}{3}$, $\frac{3}{4}$, and who work themselves into an unchristian state of mind over the dullness of the pupil.

From a very interesting book for teachers, Dr. Klemm's "European Schools, or What I Saw in the Schools of Germany, France, Austria, and Switzerland," I make the following extract. The author is describing a visit to a school-room in Holland:

> The master, after offering me a seat, proceeded with his work as if no stranger was present. I liked that, and soon my liking for the young man grew into admiration, as I observed with what loving-kindness he treated the youngsters, and in what a masterly way he handled a class and taught his subjects. The pupils were young, and the class before him at the black-board may have averaged eight years. They were wrestling with *fractions;* yes, dear reader, with fractions. Not such as $\frac{81}{3}\frac{37}{46}\frac{9}{8}$, but familiar ones, such as $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$. The teacher used an interesting contrivance to illustrate parts of a whole. [Here follows a description of the contrivance: a chest of shallow shelves, fitted with boards, cut into fractional parts, each labelled $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, &c.] The teacher had removed the 3ds, 6ths, and others,

and now showed that a whole was equal to $\frac{2}{2}$, $\frac{4}{4}$, $\frac{8}{8}$, $\frac{16}{16}$. Then, taking one of the halves out, he asked how many 4ths, 8ths, 16ths make one-half. Reduction ascending and descending was thus thoroughly exemplified and practised. The same exercise was had in 3ds, 6ths, 9ths, 12ths, and the pupils were led to work with the fractions themselves; that is, "do" them, not merely "see" and "hear." It was a great pleasure to see the little Dutch boys and girls "do" fractions. Their cheeks glowed with excitement, and they noticed the stranger as little as did the teacher.

A word of caution as to the use of the apparatus may not be amiss. Care should be taken not to confine the attention of the pupil too exclusively to the device. He should be repeatedly called upon to show the corresponding fractional parts of *other* objects, and thus be led to look at fractions from all possible points of view.

As soon as possible I hope to make arrangements by which the Fraction-Teacher can be manufactured and placed on the market at a reasonable price. This price remains to be estimated when the cost of material and manufacture and other expenses are ascertained.

JAMES DENISON, M. A.,
Principal of the Kendall School,
Washington, D. C.

The following expressions of opinion as to the merits of the Fraction-Teacher have been received by Mr. Denison, the inventor:

Letter from the Superintendent of Public Schools, Washington, D. C.:

OFFICE OF SUPERINTENDENT OF PUBLIC SCHOOLS,
FRANKLIN SCHOOL BUILDING,
WASHINGTON, D. C., *February* 4, 1891.

MR. JAMES DENISON,
Principal of Kendall School, Kendall Green, Washington, D. C.

DEAR SIR:

Your Fraction-Teacher is an ingenious, simple, practical apparatus, by means of which the learner may see fractions in their true relations to each other, and to integers by looking at parts and integers at the same time.

The apparatus can be manipulated without difficulty by any one having ordinary intelligence.

If this apparatus can be made durable and, at the same time, reasonably cheap, I believe its use would become very general in primary schools.

Its intelligent use can be made to facilitate, also, the teaching of decimal fractions and their use in the different applications of percentage to children in the advanced grades of school.

Cordially,

W. B. POWELL,
Superintendent.

Letter from the Faculty of the National Deaf-Mute College:

KENDALL GREEN,
WASHINGTON, D. C., *February* 2, 1891.

DEAR MR. DENISON:

Having carefully examined your ingenious Fraction-Teacher, it gives us pleasure to bear testimony to its merits.

It illustrates clearly and forcibly all the definitions, principles, and operations used in fractions from their simplest elements to their most complex relations, including both common and decimal fractions, proves the facts to be taught clearly and unmistakably, and fixes them indelibly in the mind. Its introduction into our schools will shorten and simplify the work of teaching fractions from the beginning to the end of the course.

Yours sincerely,

E. M. GALLAUDET,
E. A. FAY,
SAMUEL PORTER,
J. C. GORDON,
J. W. CHICKERING,
JNO. B. HOTCHKISS,
AMOS G. DRAPER.

Letter from the Commissioner of Education:

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
WASHINGTON, D. C., *January* 24, 1891.

MR. JAMES DENISON,
Principal of the Kendall School, Kendall Green, Washington, D. C.

DEAR SIR:

The apparatus invented by you for the illustration of the arithmetical processes of teaching fractions seems to me to have the following merits: The plumb-line and spirit-level attached to it make it a sort of object-lesson in principles that underlie many of the arts, especially the building arts. Aside from the direct use of the machine in teaching the relations of fractions one to another, therefore, your invention has this important recommendation, giving it an advantage over other devices of the kind.

I note, too, that your apparatus is of a more universal character than the others. By the use of your plumb-line you can show the relation of decimals to all other fractions. You can also compare any fraction having a denominator less than forty-eight (48) directly with any other fraction having a less denominator than it.

But in my opinion, the most valuable feature of your invention is its adaptation to exhibit the relation of the French metric system to the weights and measures in common use. If you get up this apparatus at a price sufficiently low to bring it within the means at the disposal of school committees, I shall think you are doing a good service for education.

Very respectfully,

W. T. HARRIS,
Commissioner.

Letter from L. R. Klemm, Ph. D., formerly Principal of the Cincinnati Normal School, and Superintendent of Public Schools in Hamilton, Ohio; author of "European Schools, or What I Saw in the Schools of Germany, France, Austria, and Switzerland," "Chips from a Teacher's Workshop," and numerous school-books; now Specialist in the Bureau of Education:

BUREAU OF EDUCATION, WASHINGTON, D. C., *Feb.* 7, 1891.

MR. JAMES DENISON,

Principal of the Kendall School, Washington, D. C.

DEAR SIR:

Having carefully examined your device for teaching fractions, and subjected it to a comparison with devices of similar purport exhibited and used in Europe, I arrive at the conclusion that this contrivance offers advantages and facilities such as are not found in any other device. It will be useful in the hands of any teacher, and will therefore be hailed with delight by all who have the welfare of children at heart. The proverbial inventive genius of the citizen of the United States has once more proved its superiority over that of our Old World competitor.

Wishing you all the success you so richly deserve, I am, dear sir, respectfully yours,

L. R. KLEMM,
Specialist, Bureau of Education.

CONVENTION OR ASSOCIATION?

THE First Convention of American Instructors of the Deaf and Dumb was held at the New York Institution, in the city of New York, in August, 1850. Six schools were represented by twenty two delegates. The honorary members raised the total number in attendance to thirty-five.

The Twelfth Convention was held in August, 1890, and also at the New York Institution. Fifty schools were represented by two hundred and forty delegates and one hundred and six honorary members, a total of three hundred and forty-six. Many former pupils of the New York Institution, and others more or less directly connected with the workers, were interested spectators and swelled the number in attendance to about six hundred.

The contrast in point of numbers between these two conventions is striking. If we make a comparison also between the number of schools for the deaf, their pupils and teachers, in 1850 and in 1890, we shall be still more impressed.

The number of deaf children in the United States under instruction in the schools in 1850 was 1,100. In 1890 it was 8,901. In the United States and Canada combined it was 9,652. If to this be added the number of deaf children under private instruction we shall see that the Twelfth Convention represented a constituency of about 10,000 pupils.

Between 1850 and 1858 five conventions were held at intervals ranging from one to three years. From 1858 to 1868, cov-

ering the war period, there were none. In 1868 a Conference of Principals was held in Washington which has gone upon record as the Sixth Convention. Six conventions have followed at the regular interval of four years.

The management of the First Convention was a much simpler matter than that of the last. The questions before that body were fewer and of less complex character. The active members were only twoscore, while in the last Convention they were twelve times as many.

There is an inspiration in numbers. One of the most interesting and impressive features of the last gathering was the presence of such a large number of teachers, animated by a common interest, assembled from all parts of the land. Those who had grown gray in the service and others of fewer years but large experience, as well as those who had but lately put the harness on, alike found in personal contact and counsel new stimulus and fresh incitement to continued work. But this pleasant feature had its embarrassing side. To use the language of a prominent member, the body had become so large as to be "unwieldy." How to satisfy the various interests represented, to give each member full opportunity to present his views in writing, to allow ample time for free discussion, and to see that no important topic was omitted on the programme, was a very difficult problem to solve, and it may be permitted to the writer, who was a member of the Business Committee, to add, it was not done to the satisfaction of either the Committee or the membership of the Convention. The criticism passed, that there was too much reading of papers and consequently too little time for free discussion, was a just one. Whether the Committee would have been justified in selecting certain papers and passing over others may well be doubted. The plan pursued of presenting all, and so abridging the time for discussion as practically to shut it off on almost all the papers, seemed on the whole the fairest course.

Forty papers were laid before the Business Committee, some complete and some by title. If all had been presented on the first day it would have aided materially in the arrangement of a programme; but, as in all previous Conventions, some were offered on the second and some on the third day. If the rule adopted by a previous Convention, and embodied in the call for the Twelfth in the form of a request that a "one page

abstract" of each paper should be "forwarded in advance" to the Local Committee had been observed, the work of arranging would have been made still easier. This, however, was done in but few cases. But even if the Committee had been authorized by the Convention to sift, condense, or in any way compress into smaller compass the mass of valuable matter presented, it would have been a difficult task, and, in the absence of any understanding to that effect on the part of the authors previous to the preparation of their articles, could not have been satisfactory.

An equitable division of time according to the subjects presented seemed out of the question, the number of papers upon some topics being out of all proportion to their relative importance, while others of great interest received little or no attention. The matter of manual training, for example, though holding a very important place in our educational system, was not brought before the body in any form; and physical training, to which so much attention is given in the best schools and colleges of all kinds, and upon which so much money is expended, was noticed by a single paper.

The time allotted to purely business matters was too short to give them proper attention.

These and other considerations which will readily occur to those who were present at the meetings suggest how difficult it has become, in view of the large attendance upon our Convention and the great interest in the various phases of the work, to conduct our business by the old methods, and the question is raised whether the time has not come for a radical change.

A step in the right direction was taken by the last Convention in the appointment of a Business Committee to arrange a programme for the next; but this is a temporary expedient which does not fully meet the difficulty, and must soon give way to a more complete and effective plan.

The Convention is a mass meeting governed by no rules but precedent. It meets, lives its life of four or five days, and dissolves, leaving to a committee the authority only to issue a call for another Convention to be held in a certain year. It is an anomaly among educational bodies. It is not an association. It has no membership, no officers, no head. It has no constitutional form nor law. It breathes once in four years. It comes like a meteor and is gone.

The Committee has been able, discreet, and faithful, and much is due them for the success which has attended the various conventions. Under the difficulties imposed by lack of organization they could not well have done more. As Executive Committee of the *Annals*, they have preserved in that publication a large amount of valuable matter relating to the deaf. In the performance of this duty they have done inestimable service to the cause. As a factor in the development of the instruction of the deaf, the influence of the *Annals* can not be overestimated.

Holding fast to all that is good in the past in methods and means, let us now take the step which is needed to put our work abreast of the times and reap all the advantages which thorough organization and advanced methods will afford.

The two main points to be urged and insisted upon are a permanent organization and more frequent meetings. The body should be incorporated, having a charter clearly setting forth its purpose, that whatever advantages are to be secured by the power to hold property may be enjoyed. There will be, of course, a constitution and by-laws defining membership and reaching all details necessary to a complete and effective organization. The proper officers will be the custodians of all original papers and records, and should at once take steps to make this collection as complete as possible. They should open the way to receive gifts of money as well as of other material aids.

The object of the association should be the advancement of the interests of the deaf without special reference to any particular method of instruction. It should embrace the intellectual, moral, physical, and manual training, census enumeration, status of pupils after leaving school, and whatever else is of importance relating to the interests of the class.

More frequent meetings are needed. Teachers in the public schools hold institutes yearly or oftener. The National Educational Association meets every year. The Association of Instructors for the Blind holds biennial meetings. Once in four years, the rule so long in practice with teachers of the deaf, is a period too long to allow between such gatherings. The fact that a Conference of Principals is held midway between these conventions does not affect the question, as teachers are not members of that body.

If the proper degree of sympathy, interest, and enthusiasm

among teachers can be maintained during such an interval, it is a question whether the Conventions might not be dispensed with and the whole dependence be placed upon correspondence and printed matter; but this is not the case. Teachers of the deaf, more than any others, occupy an isolated position, and need the help which comes from frequent contact with others similarly employed. They go from the Convention with new inspirations and new zeal, and the benefit is directly felt in their respective schools. More frequent meetings would intensify this zeal and add to the benefits. The fear expressed at one of our Conventions, that if the period were made less than three or four years there would not be enough of interest to occupy the attention of the members, is a needless one. The experience of the last Convention and the discussions in the *Annals*, *Educator*, and other papers show that the questions of interest are many and various. When the trial of yearly or biennial sessions has been made it will be soon enough to decide whether that is too often.

The convention proper, or the public meetings of the association, can best be managed by standing committees, who shall hold their places and act during the interval between the conventions. These committees will make careful preparation of all details some months in advance of the meetings. The Committee on Programme, for example, will so arrange that an equitable amount of time be given to each important topic for discussion, and solicit, if need be, papers and speakers.

A general assembly, where advocates of all methods can meet on common ground, must, of course, be provided for. It will, however, be found advisable to form sections or departments for specific purposes.

How far this should be carried is a problem to be worked out. An Oral Section has already been organized; others must be, or the difficulties of the last Convention, still further increased by increasing numbers, will face us.

An organization on this general plan will, we believe, be found the most effective, and, combined with the proposed plan for a permanent association, will place our work on a vantage-ground which it has not yet reached.

CHAS. W. ELY, M. A.,
Principal of the Maryland School, Frederick, Md.

READING BEFORE WRITING.

To the Editor of the Annals.

SIR: I have read with much interest Mr. Blattner's article upon "The Natural Method," published in the *Annals*, vol. xxxvi, pp. 1–11. I am somewhat surprised, however, that he should accept my premises and yet reject my conclusions.

On page 3 he says: "Dr. Bell is eminently correct in his premise that the natural order is to understand language before using it." Surely then it follows that reading should precede writing. Mr. Blattner, however, claims (p. 3) that this would be a reversal of the natural order, "for to read and to memorize is to *use* language." I am certain that a little reflection will convince your readers that this is an error. Reading is "understanding the language," and writing is "using" it. If this is so, it follows that Mr. Blattner's method is not the "natural" method at all, but the reversal of it.

So far from "losing sight of the very important fact that children come to understand expressions by hearing them repeatedly applied" (p. 3), I urge that deaf children will come to understand them by *seeing* them constantly applied. If, then, the natural method is followed, it is the *teacher*—far more than the pupil—who "should be made to write from the very beginning" (p. 10). If the teacher communicates by means of writing (or spelling) the pupil will then have a chance of picking up the language in the natural way, which is always by *imitation*.

Writing, however, is a very slow process. The best of us can hardly scribble more than about thirty words in a minute. We cannot even spell with anything like the rapidity with which words are spoken to the ears of hearing children.

I think, therefore, that the teacher should supplement his personal efforts by the language of printed books, and reading should be made a regular school exercise in every class. Printed words can be read at an enormously greater rate than they could be written or spelled by the hand. I have no doubt that pupils could read more words in an hour than the teacher could write or spell in a day. Hence much valuable time would be saved and a much greater repetition of words and phrases be obtained than if books were not employed.

I would not have deaf children "worry over pages of printed

characters representing things beyond the range of their observation or thought" (p. 3). On the contrary, I have advised that the subjects should be those that are of most interest to children of their age—for example, stories like "Jack the Giant-Killer," "The Three Bears," etc.—and that these should be acted out *after the reading of the story has been completed.*

While, of course, the language employed would necessarily, at first, be beyond the comprehension of the deaf child, the subjects would not; and the subsequent action would give life and interest to what otherwise might be unmeaning words, or words imperfectly or incorrectly understood.

If the natural method is followed, our pupils should be required to gather ideas from written language before the converse process is insisted upon to any great extent. However difficult it may be to gather thoughts from unfamiliar words and phrases, it is certainly easier than to express our thoughts in a language that we do not know. We can all read a foreign book with much greater ease than we can speak the foreign tongue. Reading is easier than writing, and should, therefore, come first.

I do not undervalue the importance of writing—and constant writing, too—on the part of the deaf child; but surely writing should be secondary to reading in the earlier stages if the natural order is followed.

ALEXANDER GRAHAM BELL.

WASHINGTON, D. C., *March* 17, 1891.

NOTICES OF PUBLICATIONS.

BONET, JUAN PABLO. Simplification of the Letters of the Alphabet and Method of Teaching Deaf-Mutes to Speak. Translated from the original Spanish by H. N. Dixon, M. A., F. L. S.; with a Historical Introduction by A. Farrar, F. G. S. 1890. 12mo, pp. 212.

Bonet's "*Reduction de las Letras y Arte para enseñar á hablar los Mudos,*" printed in 1620, has the distinction of being the first treatise on the instruction of the deaf ever published, and it is also one of the best. In the general correctness of his views Bonet was in advance not only of his contemporaries, but also of his successors, Amman and Heinicke on the one hand, and De l'Épée and Sicard on the other. In modern times progress in the general science of pedagogy and practical

experience in the instruction of the deaf have suggested some improvements in the details of method, but much of what Bonet wrote still has practical value.

As an analysis of Bonet's treatise has already been published in the *Annals* (iii, 200–211), and the low price at which the present translation is published brings the work itself within the reach of all, we will not review it at length. We will only say that Mr. Dixon's translation is scholarly and trustworthy, and that Mr. Farrar's interesting historical introduction contains valuable matter not before published, and gives by far the fullest and most accurate sketch of the labors of the three remarkable Spanish teachers, Ponce de Leon, Bonet, and Carrion, that has yet appeared in any language.

If the demand for the English translation requires a second edition, as we trust it will, we hope Mr. Farrar will feel justified in giving fac-similes of the interesting title page and the beautifully engraved manual alphabet of the original.

The work cannot be obtained through booksellers, but will be supplied on application to A. Farrar, jr., the Grange, Beech Grove, Harrogate, England. The price for the United States and Canada is one dollar, payable in advance, which may be sent through the postal money-order office.

ELLIOTT, RICHARD, L. H. D. A Course of Lessons in Elementary Language for the Deaf, together with a Course of Elementary Lessons in Arithmetic, following an intuitive method of teaching. London: Published by the Committee of the Asylum for the Support and Education of Indigent Deaf and Dumb Children, Old Kent Road and Margate, at their office, 93 Cannon Street, London, E. C. 1891. 12mo, pp. 116.

Dr. Elliott's Lessons have had the test of several years use in manuscript in the London and Margate schools, of which he is the distinguished head-master. They follow the "natural" method, not indeed in the "hap-hazard" way which has brought the term into some disrepute in connection with the education of the deaf, but "adopting intuitive processes rather than direct instruction by methodical sequences of precise rules and complete classifications."

Dr. Elliott has both oral and manual classes in the schools under his direction, and the book is intended to be used with either method. "In the one case, speech and lip-reading should form the medium of communication and explanation, while the manual alphabet would serve for the other." The sign-language is not to be used with either class:

If "signing" be allowed to grow up instead [of spoken or spelled language] as a medium of intercourse, we shall invariably find that habits of thought and expression are induced which will form a serious obstacle to the acquirement of correct written and spoken "language," and, therefore, to the work of education generally. Signs are permissible in intercourse in the stage of mental babyhood; when that stage is passed, they should cease, as much in the case of the deaf pupil as in that of the hearing.

Dr. Elliott explains in a foot-note that he is here speaking exclusively from the educational point of view; "the question of 'signing' in the intercourse of the adult deaf with each other, and in public worship, if they come together as a separate class in the community, is altogether a different one."

Full directions are given the teacher in connection with each lesson. The importance of constant review and of free conversation both in and out of the school-room is urged as essential to the success of the method.

The Lessons begin with names of objects, given however in the form of sentences: "What is that? That is a book. That is a desk," etc. Next come simple orders: "Stand up. Sit down," etc. Then objective personal pronouns are introduced: "Come to me. Go to him," etc.

The definite and indefinite articles are taught in connection with their nouns, "the" being used if there is but one object of the kind in the room, "a" if there is more than one: "Go to a window, to the wall, the door, a corner, a desk," etc.

The meaning of adjectives is explained (1) by contrast: "A horse is large. A mouse is small;" (2) by gesture: "Good, described by an approving gesture. Bad, shown by a disapproving gesture;" and (3) by showing objects to which the qualities conveyed by the adjectives may be applied: "Hard; show hard substances, as iron, stone, wood. Soft; show soft substances, as wool, cloth, flesh. Clean, dirty; the hands of the pupil will doubtless at one time or another illustrate these two adjectives."

The first form of the verb introduced is, as we have seen, the copula "is"; then comes the imperative mood: then "have" and "has": "I have a mouth. He has a mouth," etc., together with the interrogative forms of "is" and "have;" then "can": "Can you walk? Yes, sir; I can walk," etc.; "like": "I like cake. I do not like pepper," etc.; the infinitive used as the complement of "like": "Do you like to laugh? She likes to eat an apple," etc.; the actual present: "I am

sitting. You are reading a book," etc.; usual action: "A fish swims in the water," etc.; the progressive form of the past: "He was sitting just now. What was she doing at nine o'clock?" etc.; the simple form of the past tense: "Yesterday was Sunday. I went to church," etc.

Dr. Elliott does not say how long a period of time the course laid down in the book is expected to cover, but he says it "is intended to lead the pupils in the direction of ability to understand, and be understood, in ordinary communications, to a point similar to that reached by intelligent 'hearing' children when their direct education commences." Near the end of the Lessons we find such language as this, taken from a lesson describing a picture, and previously taught by question and answer:

> The time of the year shown by that picture is, I think, the summer, because the leaves of the trees are green and the trees are (fully) covered with them. It is a fine day, and the sun is (appears to be) shining brightly. I think it is a very pretty picture.

HEIDSIEK, J. Ein Notschrei der Taubstummen. [The Deaf-Mute's Cry of Distress.] Breslau: Max Woywood. 1891. 8vo, pp. 60.

Mr. Heidsiek, of the Breslau Institution, is already known to the careful readers of the *Annals* (see vol. xxxii, pp. 104–113; vol. xxxv, pp. 271–275) as a German teacher of the deaf who thoroughly disbelieves in the German method, and who has the courage of his convictions. When we read the quotation with which he begins the present work, "It often requires more courage to change one's opinions than to remain true to them," we thought that, perhaps, he had been led to modify his views and was now going to make a recantation; but no; it is his colleagues whom he wishes to have change their opinions; of his own he abates not a jot nor a tittle, but persists in them more vehemently than ever.

The arguments that Mr. Heidsiek brings forward against the method of instruction prevailing in his country are similar to those we used to hear in the days when the battle of methods was raging so bitterly in America—days that we hope are passed, not to return. He maintains that the German method is contrary to nature, and therefore contrary to reason: that with a majority of the pupils the ability to speak and read the lips acquired through the painful efforts of both teachers and taught is of no practical value whatever, being wholly lost a few

years after leaving school; that the precious school period which might be utilized in developing the mind, imparting useful information, and preparing the pupils for the practical duties of life, is wasted in fruitless articulation exercises; that in schools where the attempt is made to prevent the pupils from using the sign-language, the rod, deprivation of food, and tying the hands, are the means by which the result is attained; that not only in the suppression of the sign-language, but in general, the tendency of the German method, since it affords no medium of free communication between teachers and pupils, is to prevent sympathy between them, making teachers harsh and cruel, and pupils morose and ugly, so that in fact some of the schools are penal institutions in the worst sense of the term; that the "ideal" concerning which so much is said by German instructors, viz., the enabling of the deaf to communicate freely with hearing persons by speech and speech-reading, should more properly be called an "idol," since it is false and unattainable; that every year hundreds of pupils from sixteen to eighteen years of age leave the German schools unable to write a letter, understand the simplest juvenile book, or gather the news of the day from the newspaper, and with less knowledge of their duties as citizens and Christians than is possessed by ordinary children of eight or nine years of age; that the favorable impression made upon visitors and inspectors is too often produced by exhibiting semi-deaf and semi-mute pupils as deaf-mutes; that the deaf themselves generally hate the method, and after leaving school use the sign-language not only in communicating with one another but with hearing people; etc., etc.

In Mr. Heidsiek's opinion, it is only by a judicious combination of articulation and the sign-language that the best results can be reached, and the education of the deaf be given practical value, thoroughness, and dignity.

Mr. Heidsiek's publications have made a great stir in the schools of Germany. His views have received favorable comment from some educational journals, but, so far as we can judge from the periodicals devoted to deaf-mute education, they meet with little sympathy from his professional brethren. In this book, however, he says that some of his colleagues have encouraged him to persist in the conflict in which he has engaged. But whether his countrymen applaud or censure, he has the approval of his own conscience, for he believes that in pleading for a change in the methods by which the deaf of

Germany are taught he is obeying the Scripture injunction, "Open thy mouth for the dumb, in the cause of all such as are appointed to destruction."

MYGIND, DR. HOLGER. La Sordità Congenita. Contributo all' Eziologia e Patogenesi del Sordomutismo. Traduzione dal tedesco, preceduta da una prefazione, per G. Ferreri, Vice-Direttore e Maestro del R. Istituto Pendola in Siena. [Congenital Deafness. A contribution to the Ætiology and Pathogenesis of Deaf-Mutism. Translated from the German, preceded by a preface, by G. Ferreri, Director and Instructor of the Royal Pendola Institution at Siena.] Siena: I. Gati. 1891. 8vo, pp. 117.

Dr. Mygind, as assistant during many years to Dr. G. Meyer, of Copenhagen, in his clinics for diseases of the ear, had the opportunity to make careful investigation of some of the cases treated. In this treatise he presents various statistics concerning fifty-four persons deaf from birth or early infancy, such as the number of deaf relatives, the consanguinity of parents, predisposing influences on the part of parents, unfavorable hygienic or social circumstances, and "telluric" conditions. The only fact that detracts from the value of his results is the small number of cases considered. He also treats at some length of the anatomical condition of the organs of hearing in the deaf, comparing the facts observed by himself with those reported by Hartmann and other European investigators, and reaching conclusions generally similar to theirs.

Mr. Ferreri's interesting preface shows the importance and value of such investigations as those here described, and the relation they bear to the work of instruction.

We have also received the following publications, some of which may be noticed more at length in a future number of the *Annals:*

BELL, ALEXANDER GRAHAM, Ph. D. Marriage: An Address to the Deaf. Washington, D. C.: Volta Bureau. 1891. 8vo, pp. 14.

CAMP, MISS FRANCES G. Drills in Arithmetic. Compiled from Grube. Institution Press, Edgewoodville, Pa. 1890. Small 4to, pp. 43.

MATTIOLI, COSTANTINO, D. S. P. Guida per l' Insegnamento della Parola Articolata ai Sordomuti. [Guide for the Teaching of Articulate Speech to Deaf-Mutes.] Siena: S. Bernardino. 1889. 12mo, pp. 126.

MICHELONI, F. Sull' Educazione dei Sordomuti. [On the Education of Deaf-Mutes.] Rome: Eredi Botta. 1890. 8vo, pp. 88.

REPORTS OF SCHOOLS, 1890: Arkansas, California, Clarke, Colorado, Groningen, Horace Mann, Minnesota, Nebraska, North Dakota, Pennsylvania, Rotterdam, South Australian, South Dakota. 1891: Bristol, Lyons, Missouri, Northern New York, Oregon, Pennsylvania Oral, Rhode Island.

REPORT of Proceedings of the Second Convention of the Minnesota Association of the Deaf, held at the School for the Deaf, Faribault, Minnesota, June 25, 26, 27, 1890. School for Deaf Steam Print. 1890. 8vo, pp. 40.

E. A. F.

SCHOOL ITEMS.

Calcutta School.—A Government school for the deaf has been established in Calcutta, largely through the efforts of Sahib Garindranath Bhose, a wealthy and benevolent resident of that city. Mr. Francis Maginn, formerly a student of the National College at Washington, now missionary to the adult deaf of Ireland, a man of great energy and high character, has been appointed first teacher of the school, and has accepted the position.

Chinchuba School.—Sister M. M. John, Prioress of the School for the Deaf under Catholic auspices at Chinchuba, Mandeville, La., did not respond to our letter of inquiry in time for us to mention its establishment in the last number of the *Annals*, and in the absence of authentic information we did not insert the School in the Tabular Statement of American Schools. On the 7th of January she wrote:

I must apologize for my delaying to acknowledge your kind notice of our little beginnings at Chinchuba. Our Institution opened in September, 1890, and we have not therefore much to boast of. However, after some time we hope to improve. Our teachers are no novices at the work, some among them having spent ten and even twenty years instructing deaf-mutes. The three systems are familiar to them; which will eventually be decided on for the school will depend on circumstances.

Trades, too, we hope to introduce later on, but just now our pupils are too young and too backward to apply themselves to them with much advantage.

Glasgow Institution.—Mr. W. H. Addison, late Head-Master of the West of England Institution, has been appointed Head-Master of the Glasgow Institution.

Halifax Institution.—Mr. J. Scott Hutton, for the past thirty-three years (except during an interval of four years) Principal of this school, died Feb. 26, 1891, of a disease of the liver. Mr. Hutton was born in Perth, Scotland, in 1833. At an early age he became a teacher in the Edinburgh Institution, at the same time pursuing his studies in the University. When the Halifax Institution was established in 1857 he was appointed Principal. The early history of the Institution was one of difficulties, discouragements, and struggles, but Mr. Hutton persevered in his work and raised the school to a high state of efficiency. In 1878 he accepted the position of Vice-Principal of the Ulster Institution, and during the four years that he held it contributed much to the prosperity of that Institution. In 1882 he returned to his work in Halifax, where he labored faithfully until his death.

Mr. Hutton was a man of considerable intellectual attainments, a clear thinker, a forcible speaker, and an able writer. He made valuable contributions to the literature of the profession by several text-books, by articles in the *Annals*, and by papers and remarks in the Conventions of Instructors and Conferences of Principals. In 1869 he received the honorary degree of Master of Arts from the National Deaf-Mute College, in whose work he always took a warm interest. If the Faculty had consented he would have established competitive prizes in mathematics for the students of the College.

Mr. Hutton was active not only in the education of the deaf, but in the promotion of education generally, in the church, and in everything pertaining to the welfare of the community. In many ways his death leaves a vacancy that cannot easily be supplied.

Indiana Institution.—In addition to the *Silent Hoosier*, the Institution publishes a semi-monthly periodical for use in its own school-rooms, called the *School-Room Aid.* It contains stories, editorial comments, news items, humorous paragraphs, puzzles, and idioms illustrated by their use in sentences. Foot-notes and a glossary aid the pupils in comprehending the language. The aim is to amuse and instruct, teaching language through reading.

Milwaukee Day-School.—The publication of a small monthly paper, called the *Deaf Speaker*, was begun in January. Its

object is to teach the pupils type-setting and printing, serve as a medium of exchange between the school and its patrons, and help to advance the oral method.

National College.—Congress at its last session made an appropriation of three thousand dollars to provide for instruction in articulation in the College next year, thus supplying a need long felt.

Six "Normal Fellowships," of the value of five hundred dollars each per annum, have been established from funds not derived from the Treasury of the United States. Graduates of colleges will be appointed to these Fellowships for one year. They will be required to reside in the Institution, and will receive instruction in both the manual and oral methods of teaching the deaf. They will be expected to perform certain duties in the Institution, and will therefore constitute an addition to its teaching force.

President Gallaudet says in a circular of information concerning this "new departure," that the suggestion of establishing the Fellowships is taken from the arrangement existing in the Johns Hopkins University at Baltimore, from the ranks of whose Fellows college professors, principals of high schools, and other instructors of high rank are drawn in large numbers. He quotes the following letter from President Gilman:

JOHNS HOPKINS UNIVERSITY,

BALTIMORE, MD., *March* 5, 1891.

DEAR SIR: I am very much interested in what you have told me of your plans and hopes for the development of the National Deaf-Mute College. Particularly it seems to me wise that you should give prominence to the fact that articulation is taught, by designating a competent instructor who should have a specific title indicating that he performs this service. I am even more interested in what you say of the possibility of enlisting annually half a dozen or more men in the service of the College, who would not only be valuable assistants during their residence with you, but would be trained for permanent careers in the various institutions of the land. Such a system here has been most fruitful in good results, and I can easily foresee how a carefully chosen staff of Associates or Fellows in the National Deaf-Mute College—holding an intermediate position between the permanent members of the Faculty on the one hand and the students on the other—would inspire the teachers, help the scholars, and furnish, in time, a corps of instructors for the schools for the deaf which now exist in such considerable numbers throughout the country.

Yours sincerely,

D. C. GILMAN.

DR. E. M. GALLAUDET,

President National Deaf-Mute College.

President Gallaudet states some of the advantages to the profession of deaf-mute instruction, growing out of the Normal Fellowships, as follows:

> First of all, opportunities will be furnished to schools for the deaf to secure the services of young men and women, possessed of all their faculties, of the highest education and character, with a knowledge of the natural language of the deaf, and capable of teaching by either the manual or the oral method as circumstances may require.
>
> These young teachers will have had not only good academic and collegiate training, but also, besides all they will gain at Kendall Green, at least a year's residence in Washington, where valuable opportunities are found for culture in the public libraries, museums, legislative halls, courts, and many other places where contact with men of high attainments is possible.

If the heads of schools will co-operate with the College authorities, both in aiding them to select thoroughly competent persons as Fellows, and in opening to the Fellows on the completion of their course suitable positions as teachers, we are confident the result will be to maintain the character of the profession at the high standard aimed at from the very inception of the work in this country, and ably set forth by Dr. H. P. Peet in the Fourteenth and Fifteenth Annual Reports (1832 and 1833) of the New York Institution. We all know what high qualifications the elder Gallaudet and Peet sought in their associates, and what remarkable results in language, notwithstanding a limited term of instruction and other obstacles, they produced with the congenitally deaf. If we maintain this standard of professional ability, we may hope to reproduce those results in addition to the other advantages now offered our pupils, to retain the confidence of the public, to secure a liberal support for our schools and a suitable compensation for teachers, and to keep the work free from the debasing influence of party politics. We appeal to all heads of schools and all friends of the deaf to give the College authorities their hearty support in this new field of labor.

New Jersey School.—The Board of Trustees has been abolished by the Legislature. The School is placed in the hands of the State Board of Education, consisting of six of the State officers, and eight other members to be appointed by the Governor from both political parties. This Board will also have control of the State Normal and Model Schools.

North Carolina School.—The General Assembly has passed an act separating schools for the deaf and the blind. The new School, "The North Carolina School for the Deaf and Dumb," will be located at Morganton, in the foothills of the Alleghany Mountains, about sixty miles east of Asheville, on the Western North Carolina Railroad. The immediate location is one of the most healthful in the State, with a great abundance of water from mountain streams. The town of Morganton gave a site of one hundred acres of valuable land to the State for the School. It is hoped the new buildings of the School will be ready for occupancy in 1893, and that the new arrangement will provide better facilities than the former for the instruction of the deaf.

North Dakota School.—A compulsory law has been passed, requiring attendance between the ages of seven and twenty, under penalty of a fine ranging from five to fifty dollars.

Pennsylvania Oral School.—The new building of this school is now crowded, and application has been made to the Legislature to provide funds for additional buildings.

Miss Emma Garrett has resigned the position of Principal, to take effect June 20, in order to devote her time to establishing a Home for the training in speech of deaf children before they are of school age. A printed circular will be issued, giving her letter to the Board of Directors, and their kind reply, which will more fully explain the situation. Miss Garrett will continue her Normal Training School for Teachers of the Deaf, established in 1881.

St. Louis Day-School.—Miss Helen C. Vail, of Indianapolis, Ind., has been appointed teacher of articulation.

Tung Chow School.—The Rochester *Daily Paper for Our Little People*, of February 7, 1891, gives a consecutive story of the progress of this School from its inception, prepared from Mrs. Mills's letters. Nearly a thousand dollars have been contributed to the support of the School, chiefly from schools for the deaf in America through Mr. Z. F. Westervelt, Superintendent of the Western New York Institution. The School now numbers six pupils, and it is hoped the excellent results it

is showing will lead to the establishment of other schools in the Flowery Kingdom. Mrs. Mills desires to make normal work a feature of the School, in order that teachers may be prepared to carry on the work in other places. It is hoped that friends in England will join us in America in establishing the School on a good foundation. Contributions may be sent either through Mr. Westervelt, or directly to the Rev. Charles R. Mills, Tung Chow, Chefoo, China.

Victorian Institution.—Mr. and Mrs. Rose and Miss Rose have resigned the positions of superintendent, matron, and assistant teacher, respectively, but Mr. Rose has accepted that of non-resident superintendent. Mr. W. Jones, who for more than seventeen years has been the assistant secretary, has been elected resident superintendent, and Mrs. Jones matron.

Warsaw Institution.—Mr. Denison, Principal of the Kendall School, calls our attention to the following item in the November, 1890, number of *Free Russia*, the organ of the English "Society of Friends of Russian Freedom":

> We learn of a shocking case of cruelty and stupidity in the work of Russifying Poland. The curator of the Warsaw District educational institutions, Mr. Apukhtin, ordered that all instruction should be given in the Russian language, even in the Warsaw School for Deaf-Mutes, to which institution children afflicted in this manner are sent from all parts of Russian Poland. The result is a somewhat unexpected one—unexpected, that is, by the administrator. On returning, after several years of education, to their homes, where only Polish is spoken, the pupils understood no one and were understood by no one. They had been taught to speak, read, and write, yet among their own relations they were forced to remain as absolute deaf-mutes as they had been before entering the school.

West Virginia Institution.—Mr. John A. Boland, B. A., a graduate of the Pennsylvania Institution and of the National College, has been added to the corps of instruction.

Western Pennsylvania Institution.—Six times during the year, viz., on Christmas, New Year's, Washington's Birthday, Decoration Day, Closing Day, and Thanksgiving Day, a paper called the *Holiday Gazette* is published. It contains stories and other articles appropriate to the occasions when it appears,

and is designed for the entertainment and instruction of the pupils.

Wisconsin School.—Miss E. G. Bright, a faithful and successful teacher for nearly seven years, has resigned her position. Miss Ruth Swiler will complete the year's work with the class.

E. A. F.

MISCELLANEOUS.

Day-Schools vs. *Institutions.*—In the *Manchester Guardian* of November 1, 1890, Mr. Edward Townsend, Head-Master of the Birmingham Institution, published a letter in which he quoted the following authorities in favor of institutions rather than day-schools:

So recently as early in the present month the Chairman of the London School Board, in delivering his annual address, adverted to their work among deaf children in the schools, and expressed himself in the following clear and emphatic terms respecting it: "I am not satisfied that under the conditions of our day classes, with their intermittent attendance and the shortness of the time at our disposal, we are making the advance in this matter" (*i. e.*, in oral teaching) "we should desire to see. But until the Board can establish permanent institutions for this work I do not think much more progress will be made. * * * A more permanent work in connection with the latter" (*i. e.*, the deaf) "would not much affect the general finances of the Board, and I think that its results would be of a more lasting and useful nature than the imperfect results our expenditure upon them now achieves."

The testimony of the superintendent of those day-school classes for deaf children, the Rev. Dr. Stainer, is even of a strong and condemnatory character, as the following extract from a paper read by him before the Charity Organization Society in London will show. He said: "If school instruction were all that is required for deaf children, class-rooms, teachers, and school appliances would fully supply the want, and there would be no necessity to question the relative value of day-schools, or the completeness of the provision made by the School Board for London. But I do not think that any one thoroughly acquainted with the idiosyncracy of the deaf children of the poor (and it must be borne in mind that this is the class we are dealing with, not the well-to-do, who are capable of paying for the education of their children) would venture to assert that they could be sufficiently educated by attending a school five hours a day, five days a week, like ordinary children, and this perhaps for a few years only, and that nothing further need be done for them. If it were so, then all the institutions on the Continent and in America, as well as our own, are spending large sums unnecessarily; but if, on the contrary,

those noble institutions are essential to the well-being of the class of children for whom they provide, then the School-Board system must be only looked upon as a temporary expedient to meet the urgent requirements of large numbers for whom no other means are at present available."

Dr. Buxton, who was for twenty-five years at the head of the Liverpool Institution for the Deaf, where both day-pupils and boarders are received, stated in evidence before the Royal Commission that he considered five years' instruction as a day-scholar not more than equivalent to one-half the same time spent as a boarder in school, and that, in his view, supervision, continuous attendance, and extra discipline to which the children are made subservient under a boarding-school system are absolutely lost under the day-school system. Lastly, on the Royal Commissioners' own showing (see paragraphs 339, 346, and 352 of their Report), the institution system is to be preferred, and they are forced to the conclusion that institutions are necessary for the teaching of the great majority of deaf children.

In the same paper, a day or two afterwards, Mr. A. Farrar, jr., of Harrogate, known to our readers as an intelligent deaf gentleman, not connected with any school, expressed his approval of Mr. Townsend's views, and added:

Our main argument in favor of the institution system is based on the primary fact of the radical difference there is between the deaf and the hearing child as objects of education. With the latter it in great part consists in merely regulating and reducing to rule the language and knowledge which he is constantly, though unconsciously, imbibing through the hearing—ever responsive, like the Æolian harp—with a view to their increased power and usefulness in life. With the deaf, on the contrary, we have literally to create all the conditions that render such an education possible, and even after he has been put in possession of the necessary instruments of learning he needs constant attention, so that he may be guided to a proper use of them, in the absence of the self-correcting power of the ear. Apply this to all that relates to conduct, the formation of character, etc., and it will become apparent that the education of the deaf embraces far more than is understood of those who hear.

Now, I am far from saying such education is impossible under the day-school system, but having regard to the conditions of life among the great mass of the population, progress is slow and intermittent, and the results partial and unsatisfactory, particularly in the early stages of the oral method, when it is employed. It may be said that out of every two steps of advance one is lost, with a consequent increase of work. In the institution system, under the influence of a regular life and discipline, and constant supervision, a maximum of benefits with a minimum of waste is obtained, and in the end the deaf-mute goes into the world better equipped than his day-school fellow, who has had to contend all along with adverse circumstances.

One of the arguments advanced in favor of day-schools is that the constant association with the hearing at school and at home is of great

advantage to the deaf, compared with the feeling of isolation and other disadvantages incident to the institution system. Suffice it to reply that the advantage is more apparent than real, and that on the other hand the disadvantages are so considerable as to more than counterbalance it. The periodical holidays of the institutions are sufficient to provide the necessary antidote to the effects of isolation, etc., and when the deaf leaves for good, the education he has received places him in a better position to associate with the outside world than would otherwise be the case. It is to be feared that the Commissioners, in their Report, were greatly influenced by this view of the day-schools in the uncertain attitude they adopt regarding day-schools *vs.* institutions.

It is well-known that in the United States day-schools for the deaf have usually ended in the founding of institutions, and such will be our experience unless we are wise enough to profit by that of others.

The question of the cost of maintenance as apart from that of education only is no doubt a serious difficulty, but on the other hand the general adoption of the day-school system would be decidedly a penny-wise-and-pound-foolish policy. If the State is to take up the education of the deaf, let it do so in a thorough manner. The least we ask is that either the financial proposals of the bill be so framed as to enable the institutions to compete on equal terms with the day-schools, or the restrictions should be placed on the choice of the school authorities in the matter. Experience will show which gives the most satisfactory results in proportion to the expenditure in each case. * * *

While our object is to place deaf-mutes in a position to compete as nearly as possible on equal terms with those who hear, the methods pursued to that end are so highly special that we cannot regard any bill as satisfactory that does not recognize this fact. The present bill is so unsatisfactory in its details that it will render it not easier but more difficult to further the highest interests of those it proposes to serve. "What man is there of you, who, if his son shall ask him for a loaf, will give him a stone?"

At a "Conference of Representatives and Head-Masters of Institutions for the Deaf and Dumb of England," held at the Yorkshire Institution, Doncaster, November 18, 1890, for the purpose of considering the "Elementary Education (Blind and Deaf) Bill," there was a discussion of day schools, which it was feared might be established under the proposed Bill to the disturbance of existing institutions and the injury of the deaf. Mr. S. Schöntheil, of the Jews' Home, in London, said:

Not very long ago I was asked to inspect the London School-Board classes, fourteen or fifteen in number. * * * Deaf and dumb children want both teaching and educating. These poor children mostly belong to parents who know very little of education, and they would have to receive it before they gave it to their children. These children are brought up therefore in a manner simply indescribable, and painful in the extreme to any one that has a true feeling for these poor unfortunate children—physically, morally, and in every other way. * * * The results

achieved in the day-schools are, to use a German phrase, *unter aller Kritik*—they are not worth criticising. Girls and boys fifteen years old, who have spent a number of years in these day-schools, taught on the oral system, as they call it—taught, as they say, to speak, but which I would call barking or bellowing—will say "This is a dog;" but if you ask a first-class pupil "How many legs has a dog?" you will be told that that is beyond him. This is a correct description of what actually occurs in these day-schools, and God forbid that I should blame the teacher or pupil. It is hardly possible, considering all the circumstances, to achieve more. When the teacher is asked in these day-schools how many he has in a class he will answer nine, and asked to point out the best, he will say, "I cannot point out the best—they are all different standards." Now I ask you, who have spent your lives in a school-room, whether you could achieve the smallest possible results in teaching a class of children consisting of nine for three or four hours a day at the utmost, all of different standards, in addition to which you must remember that these children attend very irregularly. The whole affair is a farce, and therefore I think we must as educators pronounce against them.

The members of the Conference (at which, however, no representatives of day-schools were present) were unanimous in the opinion that the results of day-schools are inferior to those of institutions. The following resolution was adopted:

That this meeting is strongly of opinion that day-schools cannot meet the peculiar requirements of the education and training of the deaf and dumb in the same efficient manner as institutions, and having regard to the exceptional needs of the deaf and dumb, and the best interests of society in general, we respectfully submit that provision should be made for the enlargement and maintenance of existing institutions, and the provision of additional institutions in such centres as shall best meet the requirements of the deaf and dumb, in preference to day-schools; and this meeting respectfully submits that only where existing institutions are insufficient should additional ones be provided.

Education in England.—On February 9, 1891, a large and influential Deputation from the Doncaster Conference above mentioned waited upon Sir William Hart Dyke, Bart., at the Education Office, and presented the above resolution concerning day-schools and other resolutions adopted by the Conference. Viscount Cranbrook, the Lord President of the Council, was also present, and occupied the chair part of the time.

Remarks were made by Sir Stafford Northcote, the Rev. J. W. Scarlett, Mr. J. Howard, Mr. W. Smith, the Rev. E. W. Dawson, Mr. S. Schöntheil, Mr. W. Strang, Mr. W. Sleight, Mr. E. Townsend, Mr. W. R. Roe, Lord Egerton of Tatton, Mr. W. G. Meller, and Mr. W. S. Bessant.

The other points presented were the desirability of the Gov-

ernment's availing itself of the advice and assistance of experienced teachers in drafting the Code, the extension of the age of compulsory attendance to sixteen, and the encouragement of technical education.

The Deputation were cordially received, and were assured by both Sir William Hart Dyke and Viscount Cranbrook that their views would receive full consideration. A prominent English instructor, who was a member neither of the Conference nor Deputation, writes in a private letter concerning the Bill, which has now been read a second time in the House of Lords:

> I had rather the bill had taken a more comprehensive view of the subject, and followed the example of your own country. But we, here, cannot begin anything, as you can, *ab initio*, and must add to and compromise, patch up old machinery, consult vested interests, and so produce a somewhat hybrid measure. But I am yet hopeful that the bill itself is capable of introducing a very much higher status in the education of the deaf than has yet been reached, and of leading the way to a fuller and more complete recognition of deaf-mute education than has been usual in this country.

The Opinion of the Intelligent Deaf.—In the last number of the *Annals* (page 79) Mr. O. Hanson asked Mr. L. Cappelli, of Siena, to address certain questions to certain deaf gentlemen whom he named as fairly representative of the intelligent deaf of Italy. Mr. Cappelli has courteously complied with this request, and in *L'Educazione* for March, 1891, publishes the result. Two of the gentlemen questioned declined to express an opinion; the remaining three substantially agreed in saying that the deaf instructed by the pure oral method are not as well informed, nor as well developed mentally, as those taught by the manual method; that many of them after leaving school are compelled to fall back upon writing and gestures as a means of communication, and that, while speech and speech-reading are desirable acquisitions, the sign-language ought to be used as a medium of instruction, at least during the early part of the course. Mr. Cappelli candidly gives their replies in full, except in the case of one gentleman, Mr. F. Micheloni, who for answer refers to a book he has recently published, *Sull'Educazione dei Sordomuti*, Rome, 1890, in which similar ideas are expressed at too great length for republication. Mr. Cappelli takes occasion to express his own entire dissent from the opinions of these deaf gentlemen, and to give his reasons therefor.

The Term "Combined System."—Mr. T. S. Doyle, Principal of the Virginia Institution, writes us as follows:

In the classification of the institutions as to "Methods of Instruction" which appears in the January number of the *Annals*, I find the Virginia Institution set down in Class "B," and a foot-note quoting from my statement upon the subject as follows: "*Manual.* Lessons given to certain pupils *by* articulation. No *combination* of the two methods."

Doubtless, this quotation is given correctly. I should have been more careful in making it. But the effect of it is misleading.

We have here no such thing as a "Combined System," as the term is now used, *i. e.*, to mean that instruction is given to our pupils by means of any *combination* of the Manual method (under which I include both signs and spelling on the fingers) with the Oral method; all of the instruction that is given in the class of pupils in articulation is *in articulation* and *lip-reading*. No effort is made to teach them anything else. Of course they do learn some things, some facts, some language, as they go along. But I mean that the only thing they are expected to learn in that class is how to articulate themselves and how to read the lips of others. Instruction in spelling, reading, definition, geography, scripture, history, and composition is all given in the manual classes.

Upon examination, pupils in the classes *in* articulation and lip-reading are examined *solely* with reference to their progress in those two things. In the other classes, the manual classes, they are examined upon their knowledge of facts and ideas acquired during the period of time they are being examined for.

This I do not consider could be classed under the "Combined System."

Mr. Doyle's understanding of the meaning of the term "Combined System" is different from ours. Our understanding of it has been frequently stated in the *Annals*, and is accepted by the great majority of the members of the profession. As it may be found in the last number of the *Annals*, page 65, it need not be repeated here. In our annual classification of the schools by methods, the term is applied to those schools in which an important place is given in some form or other to speech and speech-reading, but the sign-language or the manual alphabet, or both, as well as writing, are employed more or less as means of instruction with all or a part of the pupils. Each of the various methods included under this general head is carefully defined, and for convenience of reference they are designated as "A," "B," "C," etc. Under this classification the method of the Virginia Institution, as Mr. Doyle now explains it, should be recorded as "A."

Deaf Pantomimists.—The French periodicals have recently devoted considerable space to the discussion of the question

whether the career of professional pantomimists is one in which deaf persons can successfully engage. In favor of the idea is the familiarity of the deaf with the language of signs and their readiness in making themselves understood by pantomime; but some managers of theatres who have been consulted raise the objection that in their gestures and other action the deaf cannot keep time perfectly with the music of the orchestra, a feature upon which depends much of the charm of the pantomime for hearing spectators.

Is there a Bacillus of Deaf-Mutism?—Dr. Hermann Gutzmann, of Berlin, reviewing in the February number of the *Medizinish-pädagogisch Monatsschrift für die gesammte Sprachheilkunde* Dr. A. Schwendt's recently published *Ueber Taubstummheit, ihre Ursachen und Verhütung* (Deafness, its Causes and Prevention), Basle, 1890, says:

After a critical consideration of the influence of heredity and consanguineous marriages, of alcoholism, poverty, and unfavorable hygienic circumstances, especially damp dwelling-houses, the author gives special attention to territorial influences.

The remarkable geographical distribution of deafness suggests these influences. Neither unfavorable social circumstances nor the greater proportion of consanguineous marriages can explain the strikingly more frequent prevalence of deafness in narrow mountainous valleys. The unfavorable social circumstances do not always exist, and the consanguineous marriages are found upon certain small islands where deafness is not endemic. Bircher's observations with respect to the character of the ground and the drinking water—the excellence of which depends upon the character of the ground—point out a definite cause both of goitre and of deafness.

Kocher's investigations, it is true, have not sustained Bircher's in all respects. Kocher distinguishes between goitre wells and anti-goitre wells. Men and animals that drink the water of the latter remain free from goitre, *even in a region otherwise a goitre region*, and "form solitary oases in the midst of a population heavily afflicted with goitre." The bacteriological examination of the goitre wells made by Tavel, a pupil of Robert Koch, showed that they contained germs, bacteria, and fungi in a far greater proportion than the so-called anti-goitre wells. The author asks with good reason: "Will these goitre wells prove to be the sources of the endemic deafness of mountainous regions? *Will the bacillus of deaf-mutism at some time be discovered?* * * * It is certainly of great interest to compare with the abundance of fungi and germs in the microscopically pure [qu. impure?] goitre wells of the canton of Berne the fact stated by H. Schmaltz that in the kingdom of Saxony most deaf-mutes reside near polluted water-courses." In fact, it is not improbable that the bacilli which may be conveyed by the drinking water into the passages

of the throat and thence into the Eustachian tube are a cause of deafness, just as they frequently produce catarrh of the middle ear, consequently deafness, after scarlet fever and diphtheria. The same is true of typhoid fever and especially of cerebro-spinal meningitis, the infection of which very probably proceeds from the throat. The author mentions also the prevalence of diseases of the nasal passages and the throat among the deaf.

The Prevention of Deafness.—In the review above mentioned, Dr. Gutzmann continues:

In the second part of the work Dr. Schwendt treats of the prevention of deafness. Since the greater portion of the deaf are undoubtedly not so from birth, much deafness can perhaps be prevented by prophylactic measures. The author, after a brief description of the oral education of the deaf at the present day, proceeds to a consideration of such measures. Some of these have already been suggested in the first part. One passage may be quoted here: "Very many causes of deafness, as is continually becoming more and more evident, are to be sought in the cradle. Neglected diseases of the throat, ears, and nasal passages in little children lead to early deafness and consequent dumbness, which by prompt treatment might often be averted. A great field of beneficence is here opened to the children's physician and the practical country doctor, as well as to the specialist. With the improvement of popular hygiene and a more intelligent care of the child great results may be expected in this direction.

The Twelfth Convention.—The "Proceedings of the Twelfth Convention of American Instructors of the Deaf and the First International Convention in America" have been published with commendable promptness by the New York Institution. Though the amount of material is greater than that of any previous Convention (352 closely printed pages), we think the publication never followed the meeting so quickly as this has done—a result alike creditable to the efficient Secretary of the Convention, Mr. E. H. Currier, to the competent head of the printing department of the Institution, Mr. E. A. Hodgson, and to the pupils who did the work. It was no slight task to edit these Proceedings, and the members of the profession are greatly indebted to Mr. Currier for the faithful and satisfactory manner in which he has performed this labor of love.

A carefully prepared index adds to the value of the work. Through the generosity of the New York Institution the volume is presented to American instructors, and will be sent free to any address on receipt of ten cents to pay postage. Copies will also be sent free to the foreign subscribers and exchanges of the *Annals*.

The Promotion of Speech.—A meeting of the Board of Trustees of the "American Association to Promote the Teaching of Speech to the Deaf" was held in New York, February 16 and 17, 1891. We have received no official report of the proceedings; the following is gleaned from the newspapers:

All the members were present, viz., Dr. Alexander Graham Bell, President; the Hon. Gardiner Greene Hubbard, and Miss Caroline A. Yale, Vice Presidents; Mr. Z. F. Westervelt, Secretary; Mr. David Greenberger, Miss Ellen L. Barton, Dr. Philip G. Gillett, Mr. A. L. E. Crouter, and Miss Mary H. True.

A constitution for the Association was adopted. The object of the Association is therein stated to be to promote the teaching of speech to the deaf, and to this end special literature is to be prepared, published, and circulated; institutes are to be held at schools for the deaf, in which methods of teaching articulation will be explained and illustrated, and summer meetings are to be held, with lectures and discussions. The Association invites the co-operation of all interested in the promotion of its objects. The annual dues are fixed at two dollars. Two hundred names were proposed for membership at this meeting. Dr. Bell formally presented the $25,000 he had previously promised to the Association.

The De Haerne Memorial.—The *Journal de Courtrai* of December 28, 1890, mentioning the contribution of American friends to the De Haerne Memorial (see the last number of the *Annals*, page 94), calls attention to the gratifying fact that this gift from America in memory of a Catholic prelate comes from Protestants. The Burgomaster of Courtrai also, in acknowledging the receipt of the money, says:

> I have been much touched to learn that this offering comes to us from men who, united with us in the same faith without being in the same church, have felt their hearts beat in unison with ours in the recognition of a life consecrated wholly to the relief of suffering humanity.
>
> The American subscription is doubly precious to us for another reason: it comes from a competent source, that is, from charitable and intelligent persons, scholars who themselves are devoted to the welfare of the deaf, and who are thus better able than others to appreciate the inestimable services of our lamented friend Mgr. De Haerne.

Helen Keller.—In the Hartford *Courant* for Feb. 20, 1891, Dr. Job Williams, Principal of the American Asylum, publishes

the following account of a recent visit to this wonderful child of genius. The testimony of Dr. Williams will doubtless be accepted as conclusive by even the most skeptical of our readers, some of whom have suspected that the marvellous reports of her progress that have appeared from time to time in the *Annals* were not free from exaggeration:

It was my privilege a few days ago to call on Helen Keller, the deaf and blind girl, who has attracted so much attention among philanthropic and scientific people for the past three or four years. Much has been written of this marvellous child, much that, judged by all ordinary standards of attainment of deaf-mutes, or even by the attainments of the occasional brilliant exceptions, seemed almost incredible. I must confess that before I saw her for the first time, a little more than a year ago, I could not believe that the reports concerning her progress in language were not grossly exaggerated, but after seeing her and talking to her myself through the manual alphabet I was prepared to believe almost anything regarding her progress in that direction. I never knew of a child deaf at so early an age as was Helen (sight and hearing were both lost at the age of nineteen months through disease) who made such rapid progress in the knowledge of the English language. It was simply phenomenal.

But the greatest wonder was yet to come. Soon we heard that Helen was trying to learn to talk. That seemed to be the most absurd thing in the world. To think of teaching speech to a child totally deaf and blind was preposterous. Yet that seemingly impossible thing has been done. The age of miracles is not yet past.

Last Monday morning I sat down beside her and carried on a running conversation concerning a great variety of subjects for nearly half an hour, and during all that time her part of the conversation, which was animated and sprighty and full of fun, was conducted entirely by speech, and speech so distinct that I failed to understand very little of what she said. She seemed never at a loss for language to express an idea, nor even to hesitate in giving it orally. It was an intelligible speech in a pleasant voice, and it was wonderful. In the course of our conversation, Helen informed me that she could play on the piano, and when I asked her to play for me she sat down and played the air of a little song with her right hand, playing the same part with her left hand an octave below. It would hardly pass for first-class music, the time not being very accurate, but it was music. Then at my request she sang for me a line of the song she had just played, and the singing was more accurate in time, though less so in tune, than the playing.

Her memory is as remarkable as her grasp of language and her power of speech, and probably is the chief source of her success in both these. She grasps an idea almost before it is given her, and once hers it seems to be ineradicably fixed in her memory. A few days ago a book of poems printed in raised letters was presented to her. She opened it and read the first poem over twice, reading it aloud as she passed her finger over the lines. Then the book was laid away, and not referred to again until the next day, when it was found that she could repeat the whole poem of seven stanzas of four lines each without missing a word.

Laura Bridgman was a brilliant example of what may be accomplished under great difficulties. Helen Keller is a prodigy. There is no one, nor ever was any one, to be compared with her.

Articles in "Science."—The discussion in *Science* of subjects relating to the deaf has continued during the past quarter. The first twelve articles were noticed in the *Annals* for October, 1890, pages 301–303, and for January, 1891, pages 80–87.

13. In *Science* for January 23, 1891, Dr. B. Engelsman replies briefly to some of Dr. Gillett's remarks on the oral method. He corrects Mr. Hubbard's statement that the school at Chelmsford was the first oral school established in America, saying that one was opened previously in New York, at No. 427 (old number 415) Eighth avenue. This "was in operation in the fall of 1864, consisting of two boarding and three day pupils."

14. In *Science* for January 30, 1891, Dr. Philip G. Gillett argues at considerable length that deafness, "once a calamity, is now, to those deaf persons who improve the privileges and opportunities they enjoy under our civilization, reduced to a very serious inconvenience." He cites the testimony of several intelligent deaf persons sustaining this view. He sees "no reason why, among the many sufferers from various physical defects, the deaf alone should be restricted in the exercise of preference in the most sacred of all human relations, the marriage relation, either by legal enactment or public opinion, which has almost the force of law." He objects to Dr. Bell's comparison of the cost of educating the deaf, "two hundred dollars a head," with that of hearing persons, "twenty dollars *per annum*," on the ground that "the two hundred dollars charged to the deaf pays for his entire instruction and support, which is done for his hearing fellows in the home, the church, the school, the mart, the shop, the social circle, the lecture, and on the play-ground." He complains that the statistics from which Dr. Bell's deductions concerning heredity have been made are defective and misleading. Dr. Gillett has gained additional information concerning his own statistics published five years ago, which somewhat changes the conclusions drawn from them at that time. He now presents the following:

I have had 2,158 pupils, of whom 1,580 have been discharged from the Institution. No doubt a considerable number of these have contracted marriages of which I have not received information, but I have learned of the marriage of 378 of them. They were parties to 233 marriages.

Thirty-three married hearing partners. Of these, seven were congenitally deaf. Of thirty-two of these thirty-three couples, all the children could hear. Of one of these couples, the mother being congenitally deaf, two children could hear and two were born deaf.

Of thirteen couples, both parties were congenitally deaf. Of twelve of these couples, all the children could hear. Of one of these couples, two children could hear and one was born deaf.

Of fifty-one couples, one party was congenitally deaf, and one was adventitiously deaf. Of these fifty-one couples, one couple had one hearing and four adventitiously deaf children; one couple had one hearing and one adventitiously deaf child; three couples had one congenitally deaf child; one couple had two congenitally deaf children.

Of twenty-five couples, both parties were adventitiously deaf. Of twenty-three of these couples, all the children could hear; of one of these couples, one child could hear and one is congenitally deaf; of one of these couples, four children hear and one is adventitiously deaf.

But I have had other pupils whose parents, though deaf, were educated elsewhere. Two sisters born deaf were children of a deaf father and hearing mother. Two brothers—one congenitally and one adventitiously deaf—were the children of deaf parents; but whether the parents were congenitally or adventitiously deaf I have been unable to learn. One boy was adventitiously deaf whose father was deaf, but of whose mother I have no information.

The foregoing may be tabulated as follows:

Parents.	Offspring.	
	Congenitally Deaf.	Adventitiously Deaf.
Both parents congenitally deaf	1	
One parent congenitally and one adventitiously deaf	5	5
One parent adventitiously deaf, one hearing	2	
Both parents adventitiously deaf	1	1
One parent hearing and one congenitally deaf	2	
Both parents deaf, but whether congenitally or non-congenitally unknown.	1	1
Father deaf, but whether congenitally unknown, but of mother no knowledge.	.....	1

Applying the above to the classification recommended by Dr. Bell and approved by Dr. Gallaudet (*Science*, Nov. 28, 1890, p. 295), while it is difficult to decide as to which class some of them should be assigned, I should say that it appears as follows: In Class 1, two; in Class 2, twelve; in Class 3, five; and in Class 4, one.

15. In *Science* for February 6, 1891, Dr. Job Williams presents some facts relating to hereditary deafness gathered from

the records of the American Asylum. In this table c. = congenitally deaf; ad. = adventitiously deaf; h. = hearing; u. = age at which deafness occurred unknown.

	Number of marriages.	Children congenitally deaf.	Children adventitiously deaf.	Hearing children.	Children whether deaf or hearing unknown.	Whole number of children.	Percentage of children congenitally deaf.
Husband, c.; wife, c.	52	48	.....	88	15	151	31.78
Husband, c.; wife, ad.	37	5	1	74	7	87	5.74
Husband, ad.; wife, c.	51	17	.....	102	5	124	13.70
Husband, ad.; wife, ad.	55	4	.....	129	6	139	3.87
Husband, h.; wife, c.	16	12	.....	52	2	66	18.18
Husband, h.; wife, ad.	5	.....	.....	16	2	18	
Husband, h.; wife, u.	1	.....	.....	4	.....	4	
Husband, c.; wife, h.	26	9	.....	58	5	72	12.50
Husband, ad.; wife, h.	6	.....	.....	13	.....	13	
Husband, ad.; wife, u.	23	.....	.....	43	8	51	
Husband, u.; wife, u.	2	.....	.....	4	2	6	
Husband, c.; wife, u.	27	9	.....	58	4	71	12.67
Husband, u.; wife, h.	1	.....	.....	4	.....	4	
Husband, u.; wife, c.	2	.....	.....	4	1	5	
	3*						
Sterile	283						
Totals	590	104	1	649	57	811	12.82

Of the fifty-two families in which both parents are congenitally deaf, twenty-three have congenitally deaf children.

Of the thirty-seven families in which the husbands are congenitally deaf and the wives adventitiously deaf, two have deaf children—four in one family and one in the other.

Of the fifty-one families in which the fathers were adventitiously deaf and the mothers congenitally deaf, seven produced deaf children, and nine of the congenitally deaf children come from two families.

There are fifty-five families in which both parents are adventitiously deaf, and from these have sprung four congenitally deaf children—one in each of four families.

Four of the sixteen families in which the husbands hear and the wives are congenitally deaf have deaf children.

In five families out of the twenty-six in which the husbands are congenitally deaf and the wives hear, there are children born deaf.

Six of the twenty-seven families in which the husbands were congenitally deaf and the state of the hearing of the wives is unknown produced congenitally deaf children.

Of the twenty-six families in which both parents are deaf and have con-

* Three families are reported with several hearing children in each.

genitally deaf children, there are five families in which one of the parents has one deaf parent, seventeen families in which both parents have deaf relatives of the same generation, four in which one parent has deaf relatives of the same generation, and five in which neither parent has deaf relatives of the same generation.

Of the twenty-six families in which both parents are congenitally deaf and have hearing children only, there is none in which either parent has a deaf parent, so far as reported, twelve families in which both parents have deaf relatives of the same generation, eleven families in which one parent has deaf relatives of the same generation, and three families in which neither parent has deaf relatives of the same generation.

Dr. Williams believes the proportion of deaf children born of congenitally deaf parents, as shown by this table, is far above that of the general average of such cases throughout the United States, "owing to causes at work in New England not in operation to anything like the same extent in other parts of the country." He calls attention to the large proportion of sterile marriages given in the table, and says "it is a serious question whether nature alone is responsible for this barrenness."

16. *Science* for February 20, 1891, publishes an open letter addressed by Dr. Alexander Graham Bell to the Hon. William B. Allison, Chairman of the Senate Committee on Appropriations, giving a summary of his reasons for opposing an appropriation asked for by the Columbia Institution to enable it to enlarge its facilities for normal instruction.

17. In *Science* for February 27, 1891, E. A. Fay replies to one of Dr. Bell's statements concerning the Columbia Institution.

18. *Science* for March 13, 1891, contains an extract from the Report of the Pennsylvania Institution for 1889–'90, in which Mr. A. L. E. Crouter explains the difference between the oral and manual methods, and discusses the limitations and restrictions that should be observed in the use of signs in either method. "In oral instruction, except in the earlier stages, signs as a means of communication should be carefully prohibited; in manual instruction they should be used as sparingly as possible at all stages."

19. *Science* for March 13, 1891, publishes President Gallaudet's Circular of Information concerning the establishment of Normal Fellowships in connection with the National College.

20. *Science* for March 20, 1891, publishes an address on Marriage, delivered before the Literary Society of the National

Deaf-Mute College, by Dr. Alexander Graham Bell. In this address Dr. Bell puts aside the question of the possible future formation of a deaf variety of the human race as of interest to scientific men rather than to the deaf themselves, and deals with the immediate results of marriage. He takes occasion at the outset to assure the deaf that he has not, and never has had, any intention of trying to have laws passed to prevent them from marrying as they choose. He assumes, however, that they do not wish to transmit their affliction to their children, and shows them how, from the researches he has made, they may gain information which will enable them to increase or diminish their liability to have deaf offspring according to the way in which they marry.

He dwells especially upon the significance of "family deafness" (that is, deafness in more than one member of a family) as indicating a tendency to transmit the defect, regarding this as an indication even more important than that of congenital deafness in the individual. Admitting the imperfection of his statistics and the necessity of their verification and completion, he offers the deaf the following deductions from them as "probabilities for their guidance:"

Whatever may be the character of the deafness in your own case, you will probably diminish your liability to have deaf offspring—

1. By marrying a hearing person in whose family there is no deafness.

2. By marrying a deaf person (not born deaf) who has no deaf relatives, or a hearing brother or sister of such a person.

On the other hand, you will probably increase your liability to have deaf offspring—

1. By marrying a deaf person (not born deaf) who has deaf relatives, or a hearing brother or sister of such a person.

2. By marrying a deaf person (born deaf) who has no deaf relatives, or a hearing brother or sister of such a person.

3. By marrying a deaf person (born deaf) who has deaf relatives, or a hearing brother or sister of such a person.

Of course, if you yourself were born deaf, or have deaf relatives, it is perfectly possible that in any event some of your children may be deaf. Still, I am inclined to think that if you marry a member of a family in which there is no deafness (or only a single case of non-congenital deafness), you will not only have fewer deaf children than if you married into a family containing a congenital deaf-mute, or a number of deaf persons, but the deafness of your children will not tend so strongly to be handed down to the grandchildren. The tendency to *inheritance* will be weakened in the one case and intensified in the other. That is, in the former case your deaf child will have a less tendency to transmit his defect to his children than you yourself possess; in the latter case, a greater tendency.

The address contains other advice and suggestions, and some of the statistics upon which these are based, but as it has been given a wide circulation in the deaf-mute periodicals and has been published in pamphlet form by the Volta Bureau, we need not report it further in the *Annals*.

Visitors in the School-Room.—The articles on this subject in the last number of the *Annals* (pages 39–43, 78, 79) called forth the following remarks from Mr. J. L. Smith, of the Minnesota School, in the *Companion* for January 17 and 24, 1891:

In our School, although visitors are quite numerous, yet they cause the teachers little or no inconvenience. The Superintendent has directed the teachers to go right along with their regular exercises when visitors appear. The visitors' attendant in our Institution is a well-educated and intelligent young lady. She has become familiar with the workings of the school, and is able to explain things and answer questions, so that the teacher is relieved from any such obligation. There are cases, however, where visitors are actuated by more than a spirit of curiosity. They really want to understand the methods of teaching, and it is a pleasure, rather than an annoyance, to give further information to such.

We think that it would hardly be advisable to forbid visitors access to the school-rooms. Our institutions stand in close relations to the public. There is no comparison between them and universities and colleges. To exclude the public entirely from the educational feature of our work might give rise to ill-feeling and suspicion. Restrictions may properly be made, however, limiting visitors to one day, or certain days, in the week. There seems to us a slight tendency to over-estimate the annoyance suffered from visitors. A good teacher, who has his class well in hand, and who himself sets the pupils the example of strict attention to business, will experience the merest trifle of inconvenience from the entrance of outsiders into his class-room.

Since our remarks upon this subject in last week's issue, an additional thought has been suggested to us. The general public are thoroughly familiar with the work of the common schools; they know just what is being done, and how it is being done; for they themselves were once pupils in those schools. There is, consequently, no special reason why they should desire to visit them and inspect the work. But it is not so in regard to our schools for the deaf. The great majority of the people are utterly ignorant of the character of our institutions. By some, they are looked upon as asylums for the care of helpless beings; by many others, they are considered as hospitals for the treatment of physical defects. Few there are who clearly understand the real educational nature of the schools. Now, in order that our work may receive the greatest measure of public support, it is important that the citizens and tax-payers of the State should fully comprehend that our institutions are educational, transforming mentally helpless children into independent, self-supporting men and women. No amount of writing and explanation will

bring people to the desired comprehension so well as a personal visit by them to the school, and especially to the class-rooms. Visitors from all over the State, stopping in Faribault for a few days, and spending a short time in our school-rooms, will carry home to their friends and neighbors a valuable degree of enlightenment as to the character of the school. Ten minutes spent in the school-room are better than pages upon pages of the strongest argument. The slight inconvenience or annoyance experienced by the teacher weighs as nothing against the benefit that will be gained to the school by enlightening and interesting the public. A good-natured teacher will not be annoyed. Let the visitors come.

New German Periodicals.—Mr. Albert Gutzmann, teacher in the Municipal School for the Deaf in Berlin, and Dr. Hermann Gutzmann, a physician of Berlin, began in January last the publication of a monthly periodical entitled *Medizinisch-pädagogische Monatsschrift für die gesammte Sprachheilkunde mit Einschluss der Hygiene der Lautsprache.* It treats of speech, its defects, and their cure, chiefly from a physiological point of view. The publisher is H. Kornfeld, Charité Strasse 6, Berlin, N. W. The price is eight marks a year.

Messrs. K. Franke and O. Kruse, of Schleswig, publish a paper for the entertainment and instruction of the deaf. It is entitled *Hephata*, and appears weekly. It contains stories, anecdotes, puzzles, etc., but a large part of its space is devoted to news of the societies of the deaf which exist in all the large German towns, and to personal items. The price is four marks a year.

A monthly paper of the same character is now published in the German language in New York. It is called the *Taubstummen-Welt-Blatt*, and is edited by Mr. G. Lindemann. The price is 75 cents a year: the address, 220 East 82d street, New York.

Deaf Dogs.—Professor J. C. Gordon, of the National College, calls our attention to the following paragraph in the second of a series of articles on the breeding of dogs ("Extracts from a Doggy Diary") now in course of publication in the Philadelphia *Fanciers' Journal.* The extract is from the number for March 14, 1891:

The fallacy of handicapping a bull terrier on the show bench because he is not pure white is rapidly establishing a breed of deaf dogs of this kind. Breeding for this color is simply a perpetuation of albinoism, and

albinos are generally deaf and near-sighted. I have seen entire litters of white bull terriers, the progeny of noted ancestry, which have all been deaf. Yet I have never run across one of any other color, or white with markings, that had this defect. Here is a hint for dissatisfied bull terrier exhibitors. Protest the dogs that have beaten yours on the ground of deafness and the chances are great that you will strike it right, but if your dog is deaf, keep your mouth shut.

The Annals.—The next number of the *Annals* will be published in June, instead of July as formerly, in order to reach most of the schools before they break up for the summer vacation.

Erratum.—In the January number of the *Annals*, page 11, line 1, for "Willie may play," read "Willie May plays." We are glad to relieve the author of the reading lesson here quoted from the unjust imputation of having given Willie permission to play with pieces of glass!

E. A. F.

A VOICE TO THE DEAF.

I sat within the church so dim and calm,
  And watched the people in their grave content
Listening, each with eager face upturned,
  To hear the message sent.

But through the silence deep that pressed me close,
  No word of comfort on my spirit broke:
Not e'en for me the anthem's swelling round
  The solemn silence woke.

I turned half heart-sick towards the altar there:
  I stood alone the while the crowd pressed by:
Then from my heart to God through all the pain
  Went up a bitter cry.

He heard and answered: on my heart there fell
  Peace like a benediction after prayer:
While to my soul the Voice Eternal spake
  A message sweet and rare.

I raised my head: a rush of gladness thrilled
  My being through. Content, at last, I trod
With slow steps down the dim aisle, while my heart
  Bowed with the love of God.

MISS ANNA B. BENSEL.*

---

* Miss Bensel is deaf. The author of the poem following is her brother.

HER COMPENSATION.

Out of the silence, Lord, I called to Thee,
Out of the silence which no noise, but Thine,
Piercing the depth in Fatherhood divine,
Can penetrate with joy's relief for me,
Out of the silence, Lord, I called to Thee.

Out of the silence Thou hast answered me:
Softly Thy peace descended on my soul:
I felt the power of its strong control
Calm the unrest, which, like a raging sea,
Surged thro' the wordless stillness over me.

And so I am content, since Thou art nigh,
To sit in this great silentness of Time:
And watch the world in restless pantomime
With listed feet unsounding pass me by:—
O Lord, I am content, since Thou art nigh.

And well I know, that, as I call to Thee—
Although no earthly voice can reach this sense—
When Death draws near, Oh wondrous recompense!
Thy hand and voice divine shall comfort me,
And my lost gift shall be restored by Thee.

JAMES BERRY BENSEL.

ADVERTISEMENTS.

ORAL TRAINING SCHOOL FOR TEACHERS OF THE DEAF, established 1881. About twenty-five graduates teaching in institutions, schools, and private families throughout the United States. For further particulars address Miss EMMA GARRETT, *Principal, Pennsylvania Oral School for the Deaf, Scranton, Pa.*

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CONTENTS.

	PAGE.
Heredity in its Relation to Deafness ..... *Wm. G. Jenkins, M. A.*	97
The School Museum ..... *Miss Annie Morse*	111
The Manual Alphabet in Common Schools..... *E. H. Currier and H. H. Vail*	114
A Correction..... *Job Williams, L. H. D.*	116
The Natural Method..... *J. D. Kirkhuff, M. A.*	120
A New Arithmetical Device ..... *James Denison, M. A.*	129
Convention or Association ?..... *Charles W. Ely, M. A.*	136
Reading Before Writing..... *Alexander Graham Bell, Ph.D.*	141
Notices of Publications..... *E. A. F.*	142
Bonet's Treatise, 142; Elliott's Lessons, 143; Heidsiek's Cry of Distress, 145; Mygind's Congenital Deafness, etc., 147.	
School Items..... *E. A. F.*	148
Calcutta, Chinchuba, Glasgow, 148; Halifax, Indiana, Milwaukee, 149; National, 150; New Jersey, 151; North Carolina, North Dakota, Pennsylvania Oral, St. Louis, Tung Chow, 152; Victorian, Warsaw, West Virginia, Western Pennsylvania, 153; Wisconsin, 154.	
Miscellaneous..... *E. A. F.*	154
Day-Schools *vs.* Institutions, 154; Education in England, 157; The Opinion of the Intelligent Deaf, 158; The Term "Combined System," 159; Deaf Pantomimists, 159; Is there a Bacillus of Deaf-Mutism? 160; The Prevention of Deafness, 161; The Twelfth Convention, 161; The Promotion of Speech, 162; The De Haerne Memorial, 162; Helen Keller, 162; Articles in Science, 164; Visitors in the School-Room, 169; New German Periodicals, 170; Deaf Dogs, 170; The Annals, 171; Erratum, 171.	
A Voice to the Deaf..... *Anna B. Bensel*	171
Her Compensation..... *James Berry Bensel*	172
Advertisements: Oral Training School; Situations Wanted.....	172

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